

# Manufacturers Record

Industry Construction



\$6.50 per Year.  
Single Copy, 20 Cents.

Baltimore, Md.  
JULY 31, 1930

## Mr. Coolidge Again Looks Southward

Two pictures of the South, sketched by Calvin Coolidge at an interval of six years, form a composite presentation of past achievement and future promise that commands attention. On Mr. Coolidge's keenness of perception and conservatism of utterance, it is not necessary to comment further than to say that these characteristics add weight to his views on any subject.

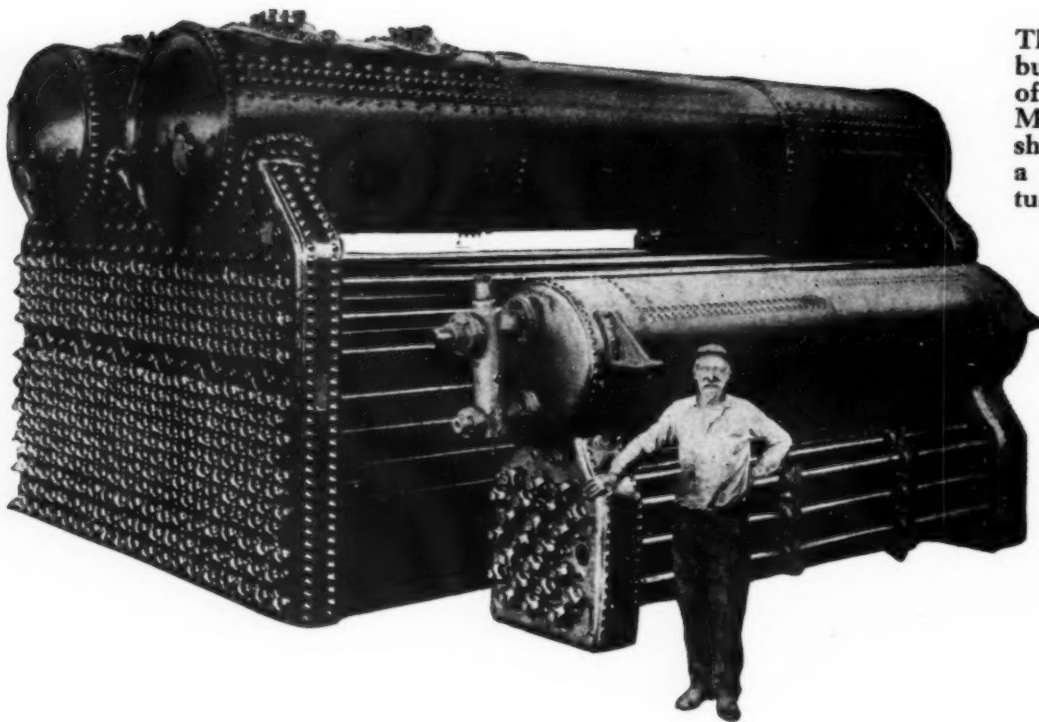
While President of the United States, Mr. Coolidge contributed to "The South's Development", published in December, 1924, by the Manufacturers Record, a letter on the South which in part was as follows:

"I look for a great further advance in all the interests of the South in the next few years. Its wonderful industrial development, the great progress it has made in utilizing its waterpower, and the impressive advance in the diversification of agriculture, have all wrought together for the firm establishment of the new era in the South. Whoever knows of that section's splendid resources in both natural endowment and the character of its citizenry must be confident that it will continue the progress already entered upon."

And now after six years, in a copyright article written for the McClure Newspaper Syndicate and published in the New York Herald Tribune and other papers on July 20 of this year, Mr. Coolidge said:

"We behold a people of high spirit and great natural endowments under the inspiration of a new hope coming into their own. The rapidity with which the old South is emerging is not generally appreciated. It has attracted new blood and new capital. From a region of plantations, it is becoming also a region of industry and commerce. But its economic development is not so great as its change in thought. It is less local and more national."

The Manufacturers Record endorses the considered utterances here quoted as to the South's development and its possibilities for still greater growth. As a matter of fact, the South is now one of the industrial regions of the country, and still retains its pre-eminence in agriculture. While giving credit to outside interests which have invested in the South's business enterprises, it must be recognized that Southern people are still the dominant factor in the operation and ownership of these enterprises.



The first Heine Boiler built in 1882, now a part of the Ford Industrial Museum at Detroit, is shown in comparison with a modern Heine Longitudinal Drum Boiler.

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The specifications for this first Heine Boiler are interesting as compared with a present day Heine Boiler.

First Heine Longitudinal Drum Boiler installed First Regiment Armory, St. Louis, Mo.

Heating surface, 263 sq. ft.  
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Length of drum, 13 ft.  
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Thickness of water leg plates, ½ in.  
Maximum working pressure, 100 lb.

Modern Heine Longitudinal Drum Boiler installed Cumberland County Power & Light Co., Portland, Me.

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Thickness of water leg plates, 17/32 in.  
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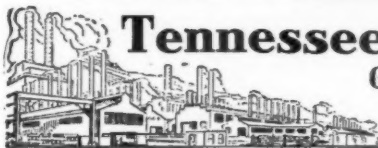
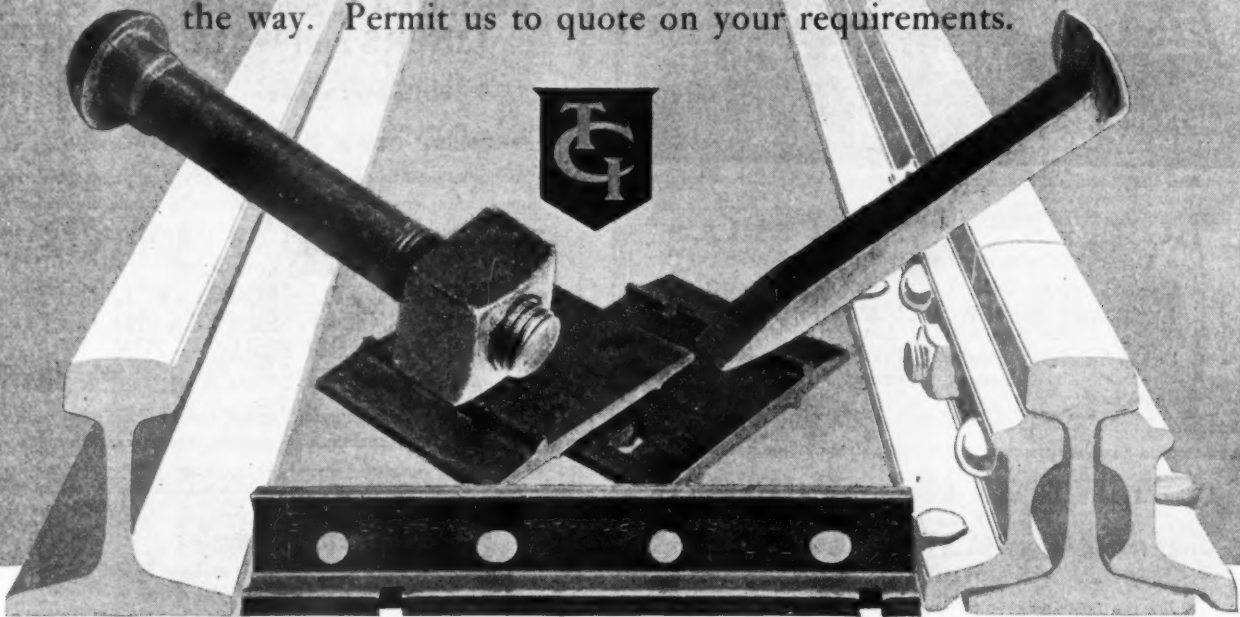
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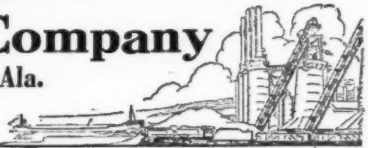
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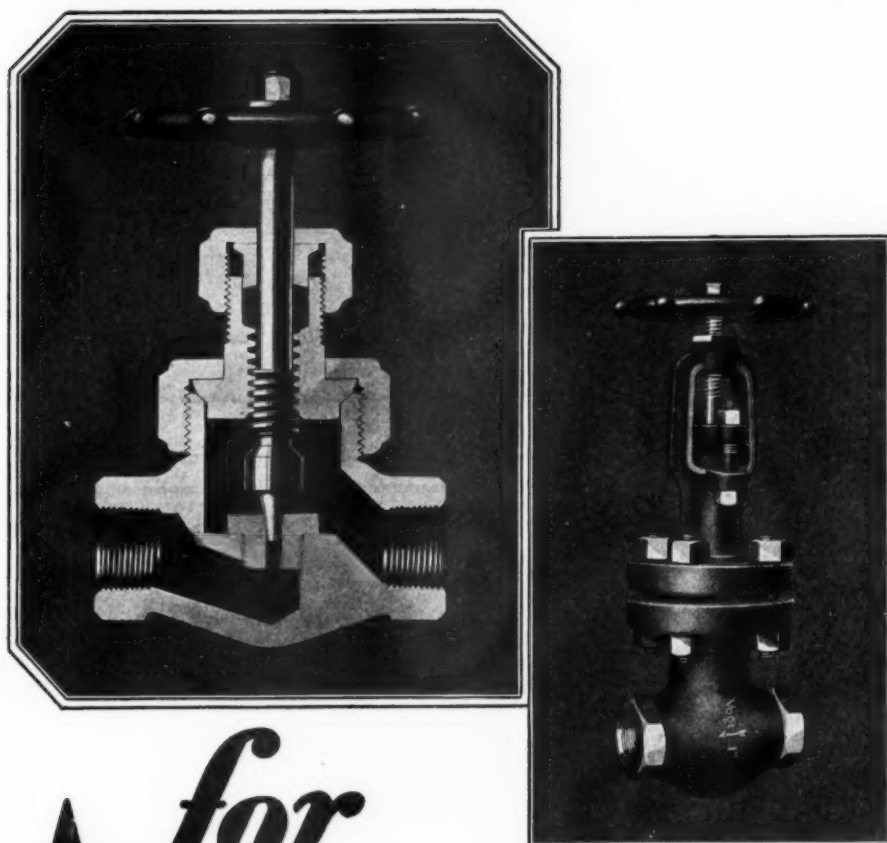
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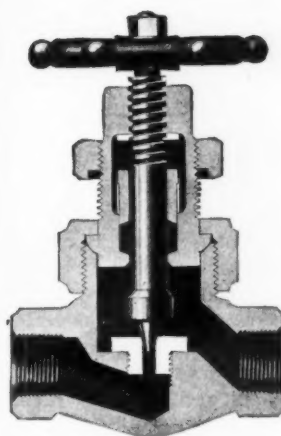
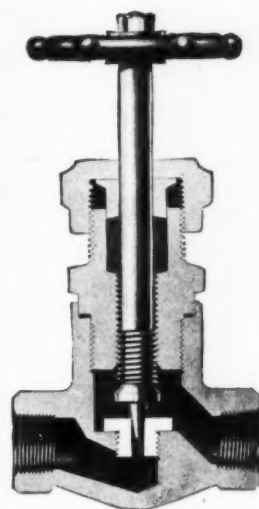
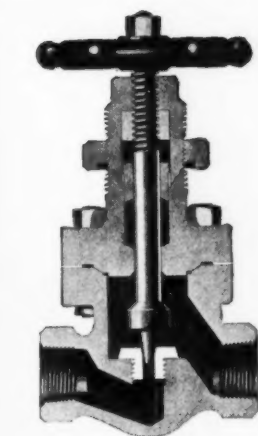




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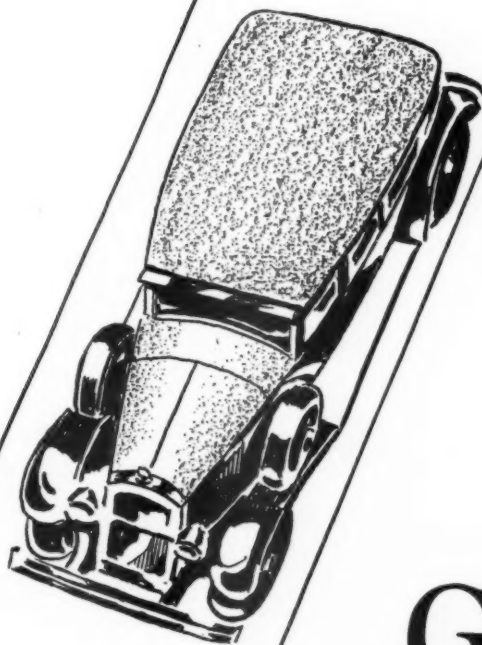
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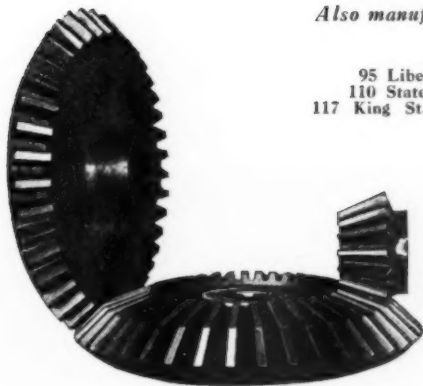
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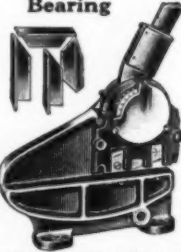
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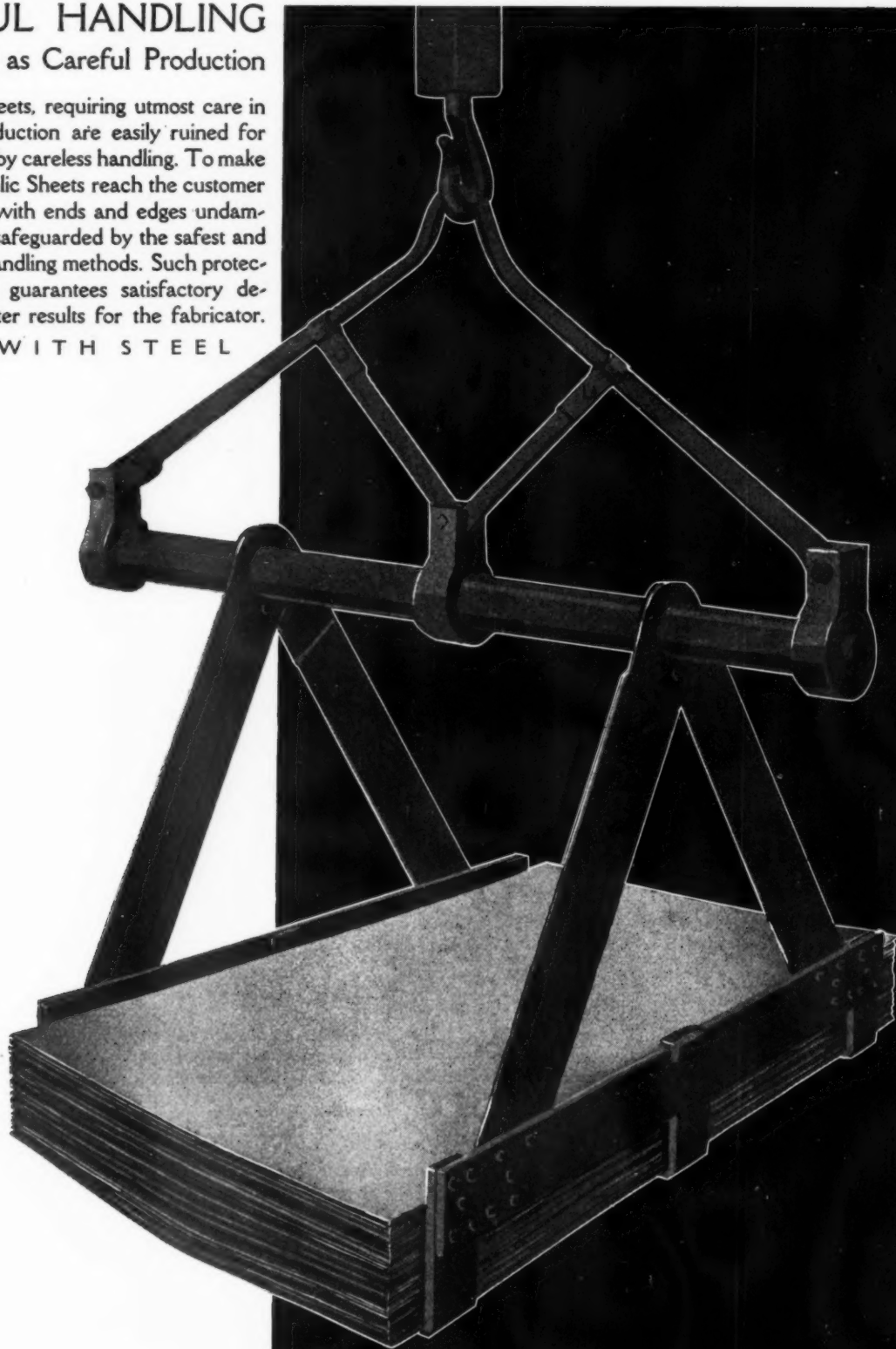


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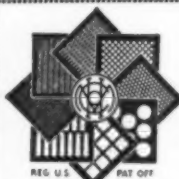
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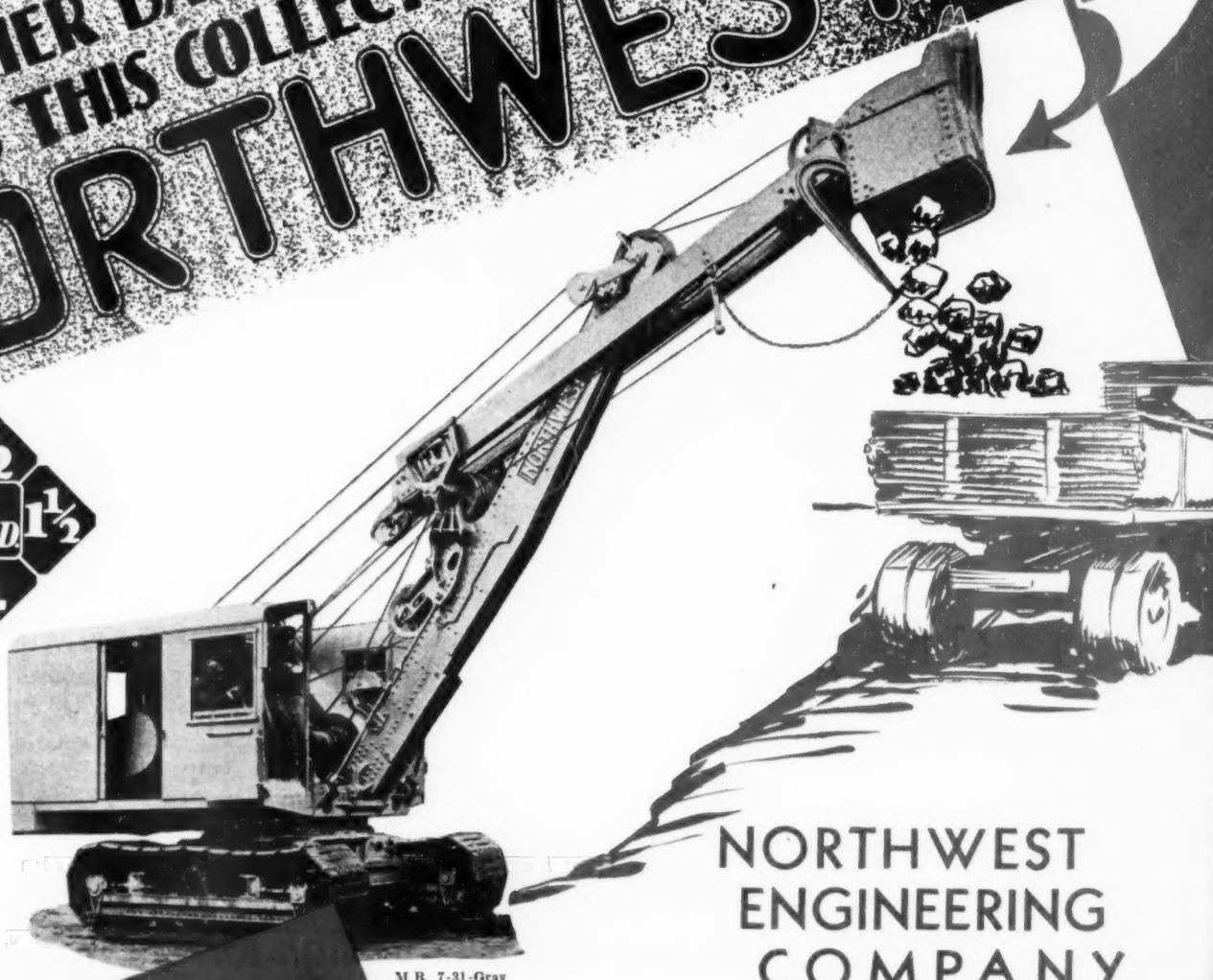
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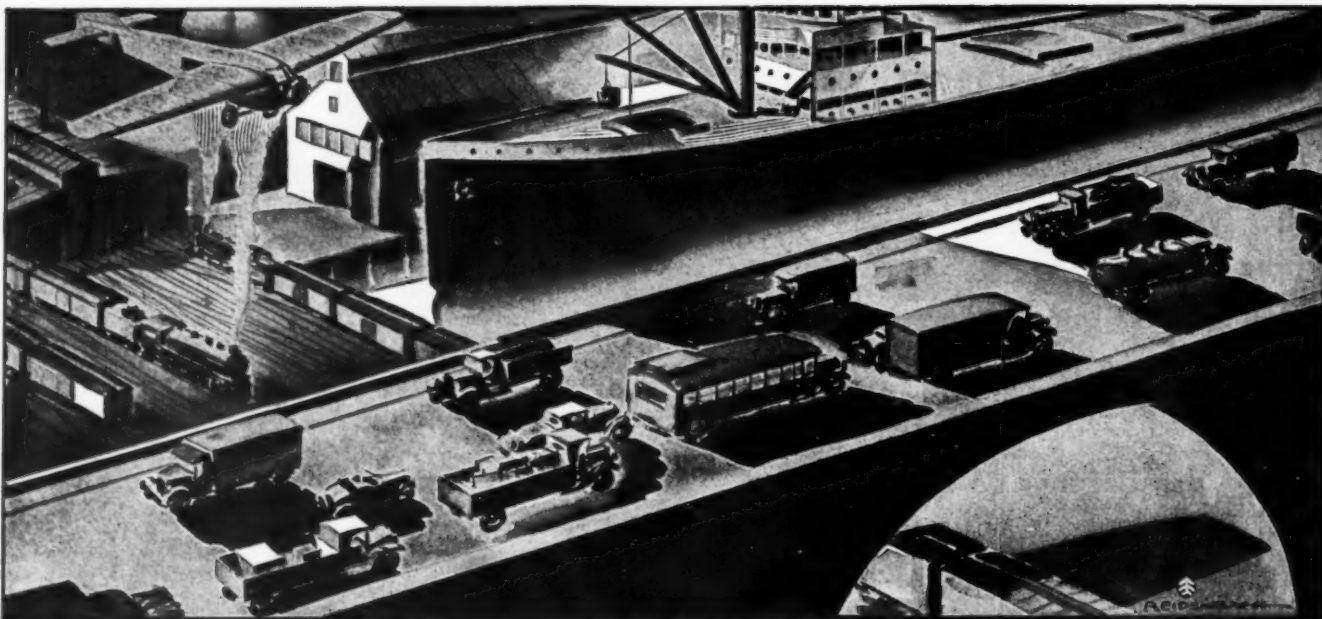


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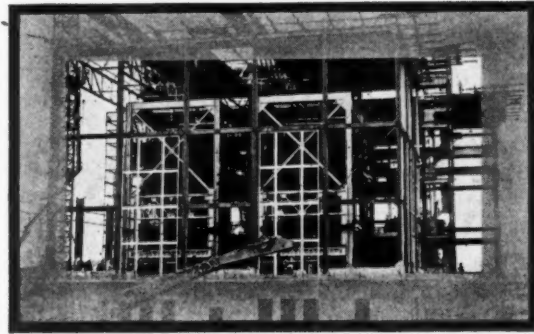
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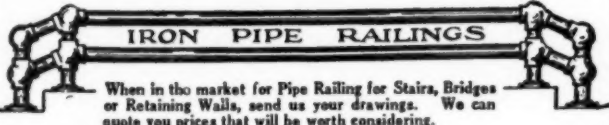
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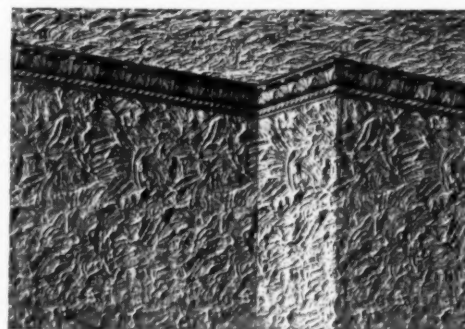
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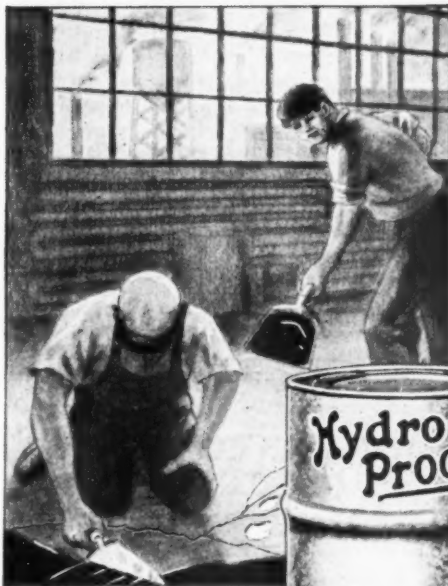
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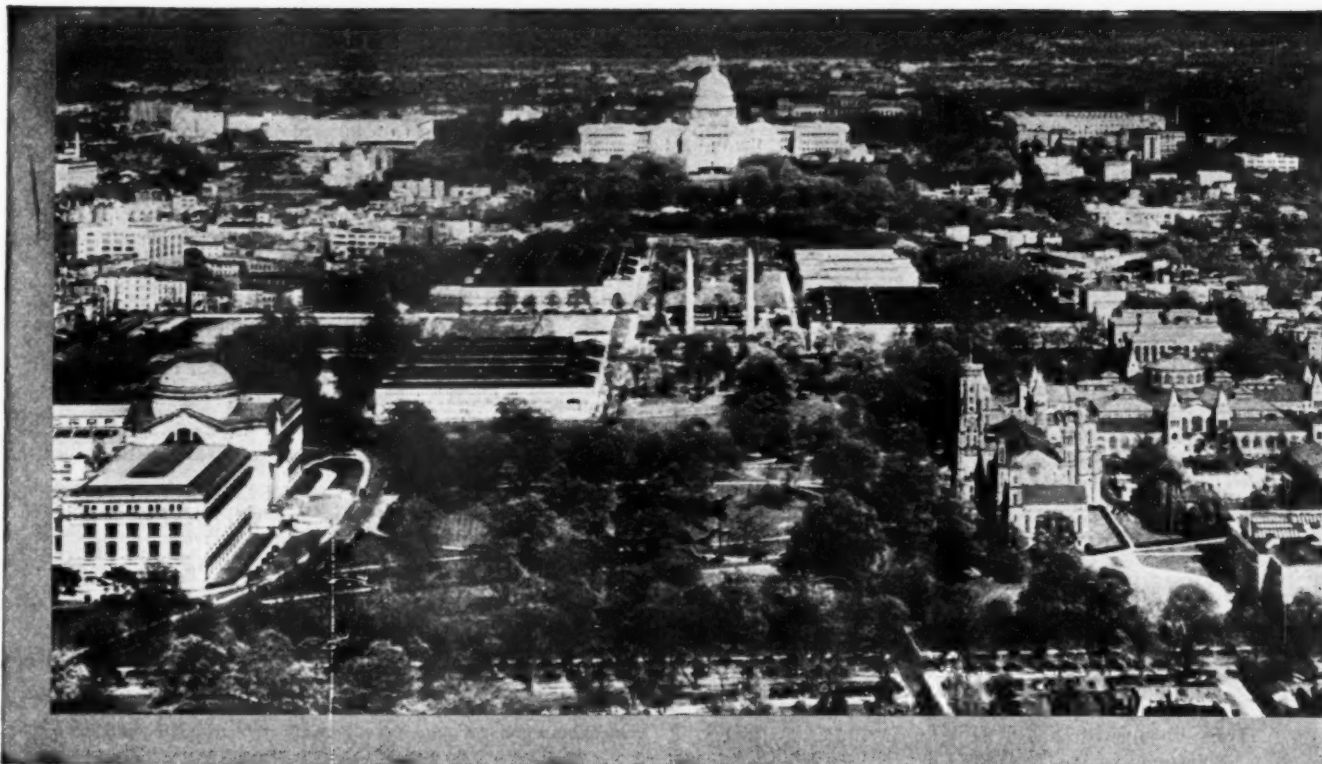


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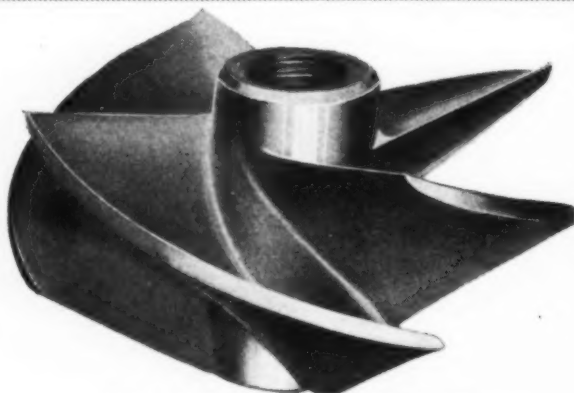
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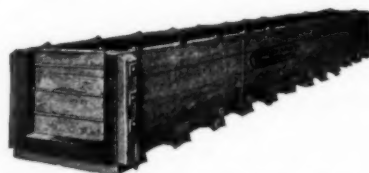
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This is an extract from a comprehensive survey of Alabama, made by the Alabama Industrial Development Board. Copies of this survey will be furnished responsible individuals upon request. Address: Alabama Industrial Development Board, Brown-Marx Building, Birmingham, Ala.

*This advertisement published through the courtesy of the Alabama Power Company, whose New Industries Division is actively cooperating with the Alabama Industrial Development Board in bringing new industries to Alabama.*



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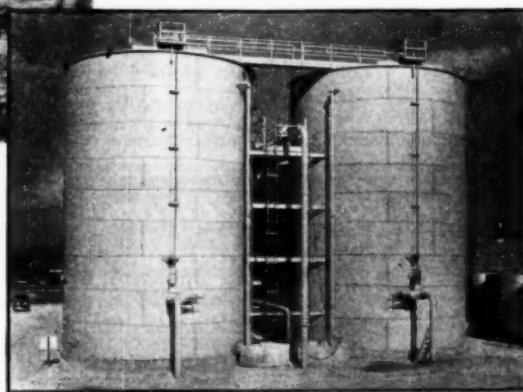
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*Left: 200,000-gallon elevated tank 200 feet to bottom and six standpipes at a steam generating plant in Baton Rouge, Louisiana.*

*Below: Close-up view of two of the standpipes holding 340,000 gallons each. They are 34 feet in diameter and 50 feet high.*



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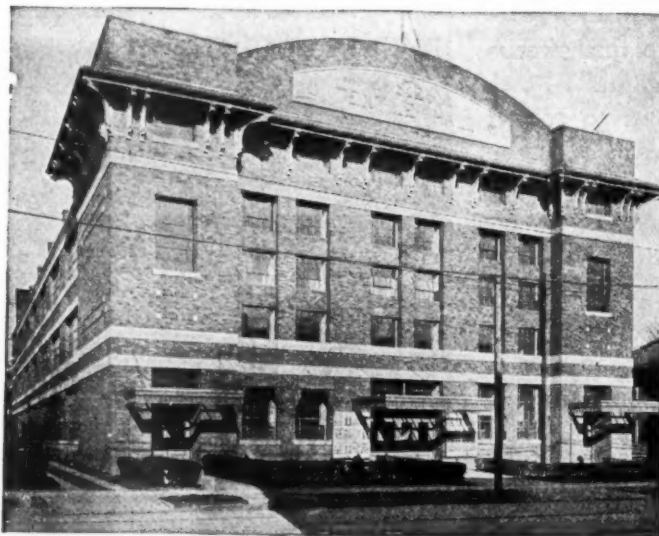
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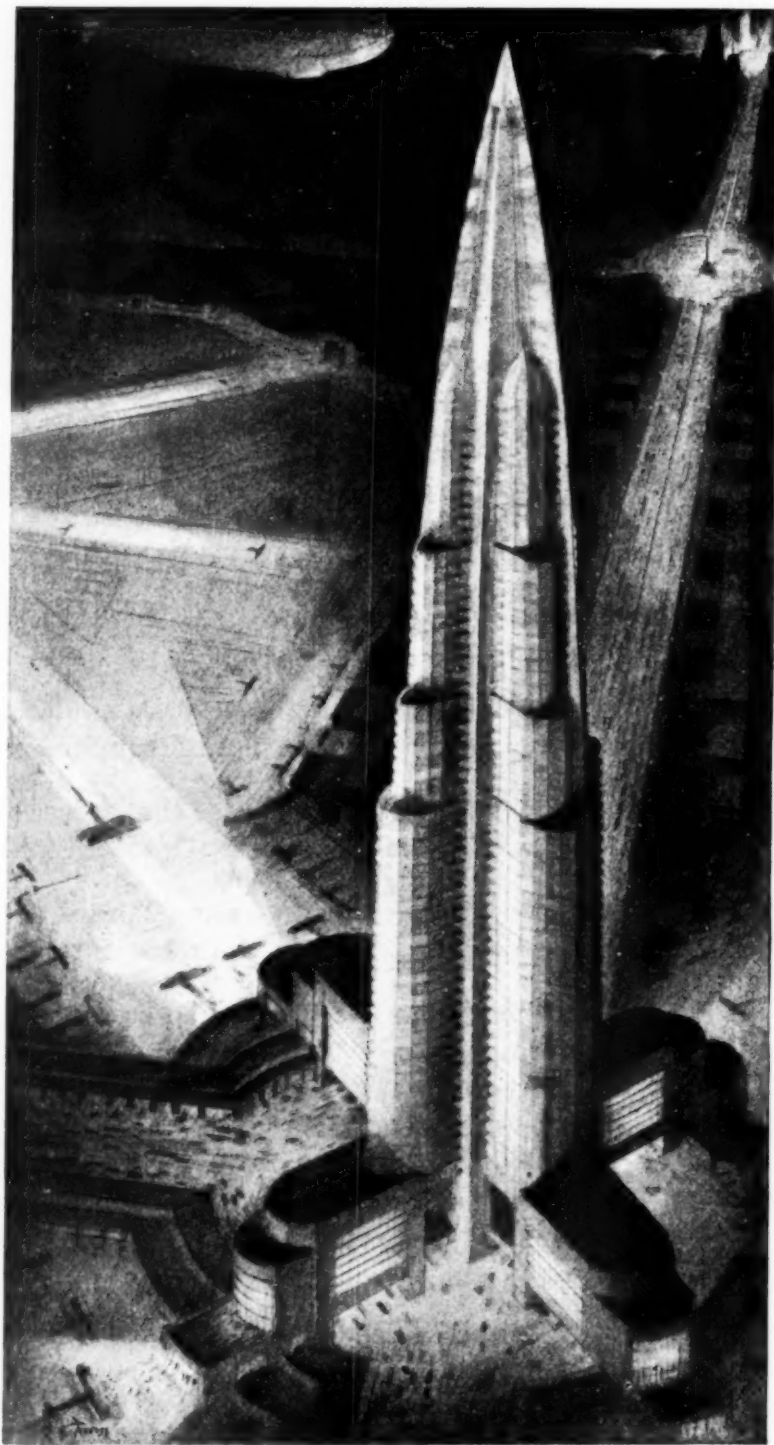
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## MANUFACTURERS RECORD

RICHARD H. EDMONDS, Editor

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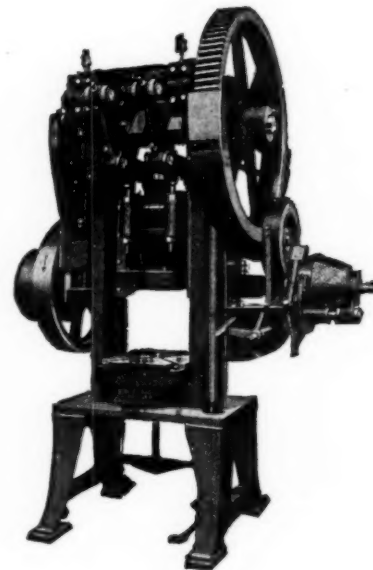
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# Manufacturers Record

Reg. U. S. Pat. Off.

Devoted to the Upbuilding of the Nation Through the Development  
of the South and Southwest as the Nation's Greatest Material Asset

Vol. XCVIII No. 5 }  
Weekly }

BALTIMORE, JULY 31, 1930

{ Single Copies, 20 Cents.  
{ \$6.50 a Year.

## Aeronautic Experts Predict Great Future for Southern Air Transportation

AIR transportation is an established commercial success. The aviation industry, embracing the building and use of aircraft in all their ramifications, has made amazing growth in recent years. Reports of proposed consolidations of nation-wide air transportation lines should be given serious study by the South. This section, because of its climatic advantages and far flung population centers, offers a fertile field for the development of the industry. Thousands of miles of airmail lines and passenger express transportation facilities, landing fields and air ports, scattered throughout the length and breadth of the 16 states from Maryland to Florida and extending out to Texas, reveal the air-mindedness of Southern people. They are utilizing this latest means of quick transportation, with new records being established frequently.

The Eastern Air Transport, Inc., operating between New York, Atlanta and Miami, alone in the first six months of 1930 flew a total of 302,719 pounds of air-mail—approximately 13,620,000 individual letters and packages—over its route from New York to Southern points. In analyzing the unprecedented growth in airmail volume in the past two years of the company's operation two significant conclusions were reached; first, the public has accepted air transport as necessary for the swift conduct of business, and second, and no less significant is the fact that there is a general desire to be "air minded." Although the sending of mail may seem unimportant in itself, it represents a definite participation in air transport by the individual.

Some of the foremost authorities on aeronautical development in the United States have expressed to the MANUFACTURERS RECORD their opinion as to the South's place in aviation. James C. Wilson of the James C. Wilson Co., investment securities, New York, a director of the Curtiss-Wright Corporation, in a recent article in the MANUFACTURERS RECORD on "The Airways of the South," proclaimed the South as the "ideal flying country of the world." He pointed out that it has more good flying days each year than any other section and it has more natural emergency

landing fields. Mr. Wilson predicted a great future for flying in the South, stating his expectation that an express business would be developed in volume since air transportation overcomes the obstacle of distance in the South.

H. A. Elliott, vice-president of the Eastern Air Transport, Inc., Brooklyn, referring to the previous difficulties experienced by the South and Southwest in developing new air transportation facilities, stated to a representative of the MANUFACTURERS RECORD:

"With the new Airmail Act going into effect, this picture should be entirely different. The air transport lines operating in that territory can expand with a fairly good assurance that they will not jeopardize their capital to any great extent. It is believed that the South Transcontinental Line, which branches off from Atlanta to Los Angeles, will soon be put into effect and, inasmuch as the first schedule on this line will be a daytime schedule to connect at Atlanta with a line for the North, and leaving in the morning for the Southwest and West, air passenger service in conjunction with the new Watres Airmail Act should be profitable in that territory. It is believed as soon as the Department of Commerce can complete the necessary construction work the establishment of this new transcontinental line involves, that a very complete mail and passenger service will come into existence in that territory, and will be rapidly followed by branch and feeder lines to connect with the main line."

C. S. Jones, "Casey Jones," as he is known to the public, has been flying for 20 years and has about 14,000 hours in the air to his credit. Mr. Jones is president of the Curtiss-Wright Corporation of New York, and says to the MANUFACTURERS RECORD:

"Although the South was a little slower than the rest of the country in becoming air-minded, I have noticed, particularly in the last six months or a year, that the South seems to have had an awakening. Today its people are far more interested in aviation than they have ever been. On a visit to Raleigh, N. C., and Columbia, S. C., recently, I found this new air-mindedness very much in evidence. Furthermore, I am rather of the opinion that it has been a good thing to have gone a little slowly, for the South will be able to learn from the mistakes made elsewhere, and can get things going in a far more efficient and economical manner than has been possible before.

"There is a tremendous field in the South for air transportation. Weather conditions generally are favorable, particularly in the winter months. In many sections, however, the terrain of the country is not too favorable and it will be necessary to develop many emergency landing fields. The government will be of assistance in this respect, and the cooperation of the state municipalities, of course, will be necessary. In winter months flying should be better and

more favorable, particularly for passengers, than on the Northern routes.

"The Watres Act should certainly encourage establishment of Southern transcontinental and feeder lines, and if the promotion of these is undertaken in an intelligent and economical manner the effects should be far-reaching and should do much to improve business conditions over a period of years."

Furthermore, as adding emphasis to the foregoing testimony on the South's advantages for development of aviation, we quote Roland Palmedo, director of Lehman Brothers, New York bankers, and director of the Aviation Corporation, parent company of several aviation subsidiaries, who gives the following statement to the MANUFACTURERS RECORD:

"The development of aviation in the South has barely started and it leaves much to the imagination or rather to anticipated expansion. It is obvious that a Southern transcontinental airmail route is very much needed on account of interference with regular operation caused by the weather and terrain on the Northern route, particularly during the winter. It would not be surprising if, in addition to a line from Baltimore, Washington and Atlanta, through Birmingham, Dallas and El Paso, other transcontinental lines should develop West of the Appalachians, bringing mail from the Middle Western States between Pittsburgh and Kansas City, southward and across. A glance at the map makes it evident how logical a route from Philadelphia, through Pittsburgh, Columbus, Dayton, Indianapolis, St. Louis, Tulsa, Oklahoma City, Amarillo and Albuquerque would be. Another new transcontinental hook-up might run from Columbus through Louisville, Nashville, Memphis, Dallas and El Paso. One or both these routes would appear to be very much needed. Fortunately, the Watres Bill gives the Postmaster General the authority he needs and I am sure he will use that authority wisely and farsightedly, as it is evident from his recent speeches and statements that he realizes the huge importance of developing air transport."

One who has been closely following the development of the aviation industry believes the South is one of the greatest areas in the world for this industry to thrive. It is important that the business South recognize this fact and add to the great plants that manufacture land and sea planes, already established within its borders. A start has been made and it is up to the South to see that it retains its manufacturing advantage and not let this newest industry ride away from it as did the manufacture of automobiles. The building and flying of aircraft will continue their rapid expansion. We are reminded that riding around in a big plane today is just as luxurious as any automobile trip. Ten years ago it was rather a nerve-racking ordeal. No doubt 20 years from now air travel will be as far superior to our present best as the latter is to the best of 20 years ago. Planes will be much faster. As one student of aeronautics expressed his idea, a good ultimate speed would be half way around the world in one day. This greater speed, as a matter of fact, adds to the comfort of air travel, as it is a fundamental point that the more power in the aircraft, the better the going through the elements of the air. It is force against force. This fundamental, plus the discovery that flying ships can be built as large as desired, indicates that the future will see huge monsters of the air, rated in thousands of horsepower, cruising at perhaps 300 miles an hour between continents. We now have many planes regularly making half that speed.

The passage of the Watres bill, as mentioned in the foregoing, puts airmail on an entirely different basis, changing from poundage to space and settles once and for all the revenue that airlines will receive

from airmail. So far, in the main, airmail has been the only profitable payload, but now airlines can take up the development of the other two kinds of payloads—that is, passengers and freight. Arrangements are reported to be under way for establishment of a national airshipping service, because shipping is the recognized backbone of transportation and points to the greatest revenue of all in the future of air transportation, and the future of commercial aviation will be air freight or air express service. Developments are coming fast in this direction and the air-minded South, in what it has accomplished, indicates that a substantial beginning has been made in the field of air transportation.

### Better Cotton Needed

COTTON is now selling at a low point. To continue producing large crops of poor quality is to endanger the future prosperity of the Southern cotton farmer. The MANUFACTURERS RECORD has often pointed editorially to the need for development of better quality cotton and for production of more cotton on fewer acres. We believe, with the present crop soon to be harvested, that the attention of every grower in the South and of every banker and merchant interested in financing the cotton farmer, should be centered on the vital question of increasing quality and yield by intensive cultivation on fewer acres rather than by adding acreage.

Secretary Hyde, in an address delivered some weeks ago before the Chambers of Commerce of East Texas, at Port Arthur, presented the situation in a nutshell when he said, "analysis shows that we have been losing business to countries which now produce cotton ranging from nearly one inch to 1 1/8 inch or better. It was upon these same staples that American cotton established a world demand before the days of the boll weevil." And further:

"Chief of our cotton troubles is the production of too much short and low quality cotton. The problems of improving the staple length and quality of American cotton challenges the best efforts of the individual grower, the cooperatives and the government. Another source of trouble, however, is the prevailing marketing system. Prices paid farmers for cotton show little, if any, variations for different staple lengths. There is a tendency to pay an average price for all the cotton during a given period of time, regardless of the quality of the individual bales. This is a serious economic mistake. It puts a premium on low-grade production. The market should put the premium of a higher price upon the higher grade product."

Therefore, in thus urging the cotton-growing interests of the South to take stock of the situation, the MANUFACTURERS RECORD is in accord with and wishes to commend Secretary Hyde's appeal for a change in the prevailing cotton marketing system which, as at present constituted, does not recognize the quality of individual bales in purchases from cotton growers. Secretary Hyde says this is a "serious economic mistake." It is costly to the cotton growers of the South and in the end it is proving extremely costly to the cotton manufacturers, because it has fostered low-grade production rather than high-grade, longer staple, cotton.



### Postage Rate Should Not Be Raised

**M**ORE than a deficit of even \$65,000,000 a year, as now estimated, in the Postoffice Department will be needed to justify Postmaster General Brown's contemplated request to Congress to raise the postage rate on first class mail from 2 to 2½ cents an ounce. On the contrary, in some instances downward revision may be considered advisable, deficits to the contrary notwithstanding.

Either on principle or through long custom, the American people have decided that the Postoffice Department should not be expected to show a profit, or even necessarily to make both ends meet in its business. The postal service is accepted as a national necessity, and an apparent deficit may be regarded as really an investment on which huge returns are indirectly realized by American business and the American people at large.

Contributing largely to the deficit are subsidies to the American merchant marine and to aviation, and it is estimated that \$14,000,000 of the total is incurred through contracts for ocean mail and air mail service. Both these factors may be considered constructive promotional work, the present and future results of which fully justify the financial outlay.

On the other hand, it appears that the department might cut down expenditures tremendously in rental charges, by ownership of its own sites and buildings; by drastic readjustment of the franking privilege, now claimed to be carried to unconscionable extreme, and on other lines.

In a sound analysis of the accounts, it probably will be found that the paid-mail of all kinds, taken as a whole, pays its own way, with the exception perhaps of the parcel post, a service which has been carried to almost extreme lengths. At all events, the paid-mail service deficit probably is not unduly high, and is justified by the national business results.

Considered superficially, an advance from 2 to 2½ cents an ounce appears a picayune proposition; studied more carefully, it discloses an advance of 25 per cent and an enormous aggregate for the mail which would be affected.

As a plain business proposition, the Postoffice Department may legitimately pass on to the Treasury or other departments many of the items which now contribute to its red ink entries. To raise the rates on any class of postage would be mighty bad business for the country as a whole.

### Productive Advertising

**B**USINESS acumen and constructive enterprise are discernible in a series of advertisements planned and circulated by the Georgia Power Company, of which P. S. Arkwright is president.

Picking various industrial fields in the South, the company has prepared appropriate and convincing advertisements. Its effort to promote "more profitable farming as well as more industries" is exerted

in newspapers in towns served by the Georgia Power Company, Columbus Electric and Power Company and South Georgia Power Company. "Build a Georgia Plant" is an idea suggested to furniture manufacturers. "Waiting Through Generations for the Cellulose Age" is the title of another constructive suggestion made through the MANUFACTURERS RECORD and other periodicals. So on, through a long list.

### Georgia Tech Shows the Way

**T**HE main subject under discussion at a recent conference of the Association for Education in Industry and Commerce, in England, was the usefulness of the university man in business, says the Manchester Guardian Weekly, and adds:

"It is, indeed, difficult, as most of the speakers pointed out, to devise a system of education which is concerned with the meaning of things, rather than with things, and which is at the same time a satisfactory training for a business career."

Business, it explains, demands quick decisions, while scholarship assumes leisure, and this difference cannot well be adjusted.

The "scholarship" of which the Guardian speaks ventures very seldom into active business, and may be omitted from discussion of the relationship between education and business, and of the possibilities for profit opened to both elements through practical cultivation of the relationship.

Typical of the constructive promotion of this relationship in the United States is the method utilized by business and education through the medium of the Georgia School of Technology. A dual system of education, on parallel lines—theoretical in the school and practical in actual work—is provided for Georgia Tech students, and is described in illuminating fashion by President Brittain, of Georgia Tech, elsewhere in this issue.

### Procrastinated Too Long

**R**ECENTLY an engineer located in Venezuela wrote the MANUFACTURERS RECORD about the book "Sinister Shadows," which he saw commended and advertised in our columns. He was somewhat surprised at the apparent inroads the Communists were making among certain classes in the United States. A business man of Illinois, writing on the subject of Communism and the efforts of Communists to further their cause in this country, said:

"Some of their tactics are very naïve, taking the form many times of apparent solicitation regarding the welfare of the book, Sinister Shadows, and its advertising, though in the next breath they display their antagonism to its message. No fire was ever put out, no plague ever banished, no rioting ever suppressed by passive resistance. We in the United States have procrastinated too long. Years ago England took a very tolerant attitude and she is now paying the fearful price of lack of aggression on the part of her patriots. May our country profit by the lesson.

"If all publications were as farseeing and fearless as the MANUFACTURERS RECORD, we could remedy this matter in a



few short years. Thank God, there are some publications that cannot be turned from the right path. We have the utmost confidence in our fellow Americans when facts are put before them."

### Mississippi's New Mineral Wealth

**E**LSEWHERE in this issue is an announcement of the bringing in of gas wells at Jackson, Miss. This development opens up wide possibilities for the future of the State in creating and supplying fuel resources which heretofore have not been available. Mississippi has raw materials of many kinds in abundance, but the lack of cheap fuel for power has been a hindrance to the state's development.

As pointed out by the Natchez Democrat recently, in addition to the worth-while gas fuel which is evidently being developed at Jackson, oil in limited quantities is reported to have been discovered in that field. Also, near Meridian and near Natchez, test oil wells are under way and it is reported that the plan is to dig for oil near Fayette, in Jefferson County, and near Woodville in Wilkinson County; the people are thinking about oil also in the Bude and Meadville neighborhoods in Franklin County. As to the oil possibilities, the development, of course, has yet to be proved, but, as the Democrat says, "we have already started the wheels in motion to dig it out and use it. With the natural gas furnishing cheap and dependable fuel, the clay industry looms as a very substantial industry for future development. Some Mississippi sands are adapted to the manufacture of glass, and the generous deposits of Fuller's earth indicate some of the mineral wealth of Mississippi which will no doubt be utilized in the not distant future."

### Some Good Even in an Ill Wind

**T**HE country recently has been in the grip of an intensely dry and hot spell. Up to the time this is written it appears that the excessive heat may be of benefit to the farmers in that it will cut down production of wheat and other crops. If it so develops, it will do more than the Federal Farm Board or any other governmental department has been able to do in maintaining prices.

The dry weather has been a boon also to some lines of industry. "Fortunately for our business," the Sydnor Pump & Well Co., of Richmond, Va., informs the MANUFACTURERS RECORD, "the dryer it gets, the more wells the people are forced to make, and the deeper the water is in the ground the more modern, deep-well pumps are required to get it out. Unfortunately, the water is never missed until the well is dry and then contractors and well machinery producers are expected to deliver a good, wet well by parcel post or otherwise, the next day."

Inasmuch as the weather has been the subject of conversation for many days, it is worth remembering that it is an ill wind—hot or otherwise—that blows nobody some good.

### Students and Business Both Benefit

**T**HE principle of interesting college students in business, and business in college students, which long has been in practice in the South, has been taken up by the New England Council in constructive fashion. As its first venture, the Council engaged students at the Massachusetts Institute of Technology on lines of research work and a study of their efforts has now been completed.

"This experiment has proved sufficiently successful, judged by the practical and useful nature of the results, to indicate an opportunity for both business and education to profit," the Council's industrial committee feels.

Interested in "the research possibilities latent in the annual crop of upper class students of economics, engineering and business administration," the New England Council induced the Massachusetts Institute of Technology to assign 25 seniors in the engineering administration classes to study certain research problems. Among the subjects selected were: Application of modern marketing methods in New England industries; methods of eliminating seasonal variations in the motor boat industry; methods of controlling quality in metals manufacturing; steam power losses; cost control systems; construction practices, and financial aid to small industries by communities. Of this venture the Council says:

"The facts brought out in the series of theses point to many new and progressive developments to the industries surveyed, and particularly emphasize the usefulness of, and the opportunity for, this type of service by New England colleges to New England business. Aside from the advantage of getting specific research jobs done, business may benefit through observing possible prospective recruits from among the student ranks.

"The students benefit not only from the knowledge acquired in the specific research jobs, but even more, perhaps, from the general business contacts which they make and the practical background they inevitably acquire in the process."

For the South, where the movement is no novelty, it may be made of further profit through retaining in this section the graduates from Southern colleges, by enlisting them in Southern industry and business. Among the 250,000 students in the universities and colleges of the South is a wealth of natural resource which can be transformed into industrial and business talent of great potential value.

In the manufacturing establishments of the South, nearly 50,000 in number, is a field in which they can be absorbed in large volume each year. Chemistry and agriculture will welcome all who are qualified on those lines. Architects and engineers and accountants are needed for construction work of wide variety. The mineral and wood resources of the South need Southern men for their development, and the doors of the Southern banks are never closed to Southern young men and women of promise.

The business opportunities in the South for Southern students are almost unlimited.

We always weaken when we exaggerate.—*La Harpe.*

# The Georgia School of Technology

By

M. L. BRITTAIN,  
President,  
Atlanta.

**G**EOORGIA TECH, as the Georgia School of Technology is popularly called, is the technical branch of the university system of the State. It is young in years, as its work began on October 7, 1888.

Under the leadership of Governor N. E. Harris, the General Assembly of Georgia established this institution to give technical training, as distinct from the agricultural instruction at the State College of Agriculture and from the liberal arts education at the parent college at Athens. By a resolution of the General Assembly in 1919, Congress was urged to provide for an experiment station at the Georgia School of Technology for the promotion of engineering and industrial research, and attention was called to the fact that valuable work of this kind had already been done for the benefit of the State.

Our first president was Dr. I. S. Hopkins, who had rather surprised, if not disconcerted, the trustees of Emory College in the early '80's by fostering a department of technical training in that fine school. Georgia Tech is therefore less than 44 years old; but, despite its youth, it has played an important part in industrial development of the State.

In the consideration of its influence, it is proper to bear in mind that Georgia Tech accepts its limitation and gives the training assigned to it without extension into the field of arts or agriculture. Besides architecture and com-

merce, we have varied engineering departments: Mechanical, electrical, civil, textile, chemical, ceramic and, just added, aeronautical.

The department of ceramic engineering was the first of the kind south of the Potomac River. Besides its aca-



A Prize Winning Machine Shop Exhibit

demic instruction, it has the distinct purpose of cooperating in every way with the non-metallic industries of Georgia and the other States of this region. Its vivifying influence upon the clay resources of this section has already

been felt, although its establishment dates only from 1924. Until recently, it was the "baby" department, and its head, Dr. A. V. Henry, is a recognized authority in this field, whose advice is continually sought in this and other States.

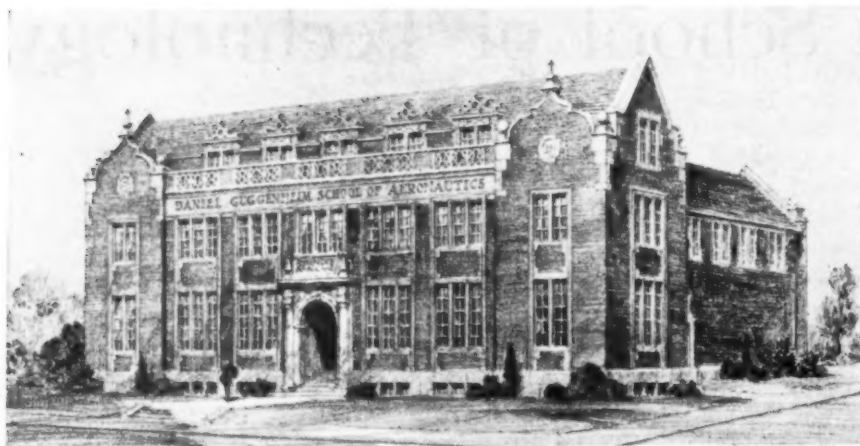
So near to the heart of the cotton industry, necessarily textile engineering is emphasized. This department is located in the A. French Textile School, with complete equipment of the machinery used in cotton manufacture. The regular four-year course includes thorough training in engineering subjects, besides the regular work in dyeing, fabric analysis and design. So excellent is this training that one of the textile graduates, Paul Norcross, became a leading authority among the civil engineers of America, occupying the position of director of the American Society of Civil Engineers at the time of his untimely death in the Mississippi River tragedy on May 8, 1925. Graduates of this textile school are in charge of cotton mills as superintendents, directors, etc., throughout the Southeast and the South.

The city, county and State always have found cooperation from the department of civil engineering. Testing of materials, designs for bridges, and other constructive work are made for this and other States. One of the newspapers of this city once said editorially that testing then being made at the Georgia



General View of Georgia School of Technology Campus





Aeronautics Building on Which Construction Has Begun

School of Technology had resulted in a saving of \$60,000 to the State in the department of road building alone.

In November, 1929, it was announced that the Guggenheim Foundation would close its work with a gift of \$300,000 to some Southern university for the promotion of aeronautical training. Already, appropriations for this work had been made to the Massachusetts Institute of Technology, New York University, University of Michigan, California Institute of Technology, Leland Stanford Junior University, and the University of Washington.

With the announcement, applications naturally followed from this section of the country, 27 institutions in all seeking the aid for the new work. On March 3, announcement was made that, after visits of inspection and consultation with the authorities of leading universities, the award had been made to the Georgia School of Technology. Accordingly, this, the newest of the departments, has been created, and work has already been commenced on the building which will house the "Daniel Guggenheim School of Aeronautics."

Somewhat similar was the choice of Georgia Tech by the United States Navy Department, four years ago. It was decided to provide systematic instruction and training at certain universities to qualify students for appointment as officers in the Naval Reserve for increased commissioned personnel in wartime. Six schools were selected: Harvard, Yale, California, Northwestern, Washington and the Georgia School of Technology as the first from the South.

The department of architecture has always been of decided credit to the school and of value to the State. Its graduates have been uniformly successful in competition with other architectural schools, and in pursuit of their profession after graduation. They are builders in the new South. The recent commencement sermon was delivered in the large and stately First Baptist

Church of Atlanta, which was planned largely by a recent graduate. It is doubtful if any man has designed and built more cotton mills than the firm of Robert & Co., the head of which is a Georgia Tech graduate and trustee.

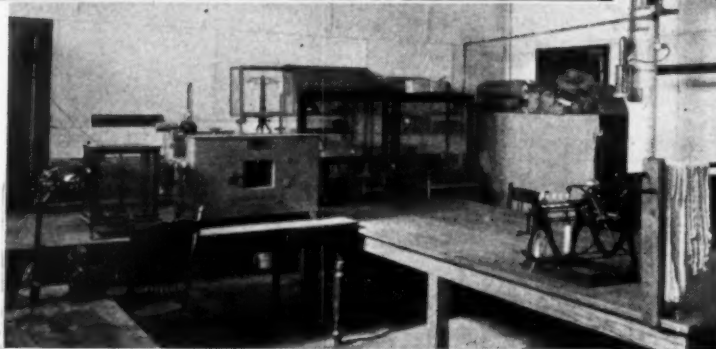
At the Georgia School of Technology, there has been for years a department that holds the "door of hope" ajar for hundreds of young men who otherwise would be deprived of a chance for a college education. It is based on what is known as the cooperative plan, first devised by Dean Schneider of the University of Cincinnati. By this arrangement, the students work in pairs. A job for a pair is obtained by the head, Professor J. E. McDaniel, preferably in

the line of work of the young man. In September, one will be at this task while the other is at college; in October, the situation is reversed, and this alternation of work and study continues until, in five years, for 12 months each year, the two young men will complete the same course of study finished by the regular students in four years, for nine months of the year.

In this way, practice is given to supplement the theory of instruction, and the student is able to pay, through his own efforts, the larger part of his educational expenses. After the first year or two, it is usually not difficult to pay the entire cost, with the exercise of economy. There are 600 young men at the Georgia School of Technology, who in this way are enabled to secure the education of which they would be deprived, but for the help of the cooperative course. Positions are found for these young men, not only in Atlanta and Georgia, but also in a half-dozen other States, some of them having employment 500 or 600 miles away from the school.

By the way of extension work, we have an evening school of applied science on the campus, and an evening school of commerce in the center of Atlanta's business section. This gives an opportunity to young men, engaged during the day, to pursue educational courses at night. The evening school of commerce is the only department of the school to which young women are ad-

Ceramics Department, With Students at Work on Georgia Clays



Textile Laboratory; the School Has a Four-Year Course in Textile Engineering and Its Associated Subjects



mitted, and several have completed the courses in accounting, economics, banking, insurance and similar subjects.

The same degree of thoroughness and efficiency which has appeared to characterize Georgia Tech students in the academic field, has been notably evident in athletics. While these words are dictated, one of the graduates of the class of 1922, by the name of Robert Tyre Jones, Jr., is leading the world's golfers on the famous St. Andrews course in the British Isles. Another, Edward Hamm, is crossing the Atlantic, with five other representatives of various American colleges, to compete in friendly rivalry in track athletics in Europe. He was

also a victor in the Olympic contest of 1928. The "Golden Tornado," as the football team is frequently called, has been known for years as a worthy opponent of the best teams in the land—North, East and West, as well as in the South. It has been a little more than a year since, under Captain Peter Pund, it met the team of the University of California, champions of the West Coast, on the Rose Bowl field at Pasadena. The contest, with the famous backward run of Riegels and other dramatic incidents, was one of the most thrilling and colorful in the annals of football history. The Rose Bowl field at Georgia

Tech, which is used for practice games and drills, is a lasting memento of the great intersectional contest. It is perhaps legend rather than fact, but rumor persists on the campus that Coach Alexander fired the hearts of his golden-jersied warriors with the final admonition: "Remember that every one of those men you will meet on that field is a darn Republican!"

This probably is mythical, as the student body of Georgia Tech is the most cosmopolitan of the South, 27 States and 10 foreign countries being represented in the enrollment of more than 3000 men.

## Wages in the United States

**W**AGES in the United States changed very little in 1929 as compared with 1928, according to a study "Wages in the United States, 1914-1929" just completed by the National Industrial Conference Board, New York. The study also brings to light interesting facts respecting wage levels in different industries and wages paid to different classes of wage earners.

As to the actual level of wages in various industries, the study discloses that hourly earnings in manufacturing industries in 1929 averaged 58 cents as compared with 57 cents in the preceding year. On the railroads, average hourly wages were 64 cents in 1929 and 62½ cents in 1928; in gas plants, about 57½ cents in 1929 or ½ cent lower than in 1928; and in electric generating plants, about 63 cents in 1929, or ⅓ of a cent lower than in 1928. Wage rates per day in agriculture declined one cent from \$2.40 in 1928 to \$2.39 in 1929. In the building trades, on the other hand, average wage rates increased from \$1.15 an hour in 1928 to \$1.18½ an hour in 1929.

Average weekly earnings in manufacturing increased from \$27.41 in 1928 to \$28.24 in 1929, and in gas plants, from \$29.86 in 1928 to \$29.98 in 1929, while in electric generating plants they fell during the same period from \$32.76 to \$32.69. On the railroads, average weekly earnings rose from \$30.79 in 1928 to \$31.86 in 1929, and in agriculture wage rates per month increased from \$48.53 in 1928 to \$49.19 in 1929. On the whole, although there was practically no difference in wage earnings or rates per hour in 1929 as compared with 1928, there was a slight gain in weekly earnings or monthly wages.

The facts stated relating to wages in manufacturing refer to the average of all the industries represented. Earn-

ings in some industries were considerably above, in others greatly below these averages. In 1929, average hourly earnings ranged from 32 cents in the Southern cotton mills to 88 cents in news and magazine printing plants. The lowest and highest average weekly earnings were also found in the two industries mentioned, namely, \$15.60 in the Southern cotton industry and \$40.29 in news and magazine printing. **These figures relate only to cash payments, and do not take into account the various forms of wage equivalents such as free or reduced rent, which may be received in addition to the actual wage; such wage equivalents are particularly prevalent among the Southern cotton mills.**

Expressing wages in terms of goods and services which they would purchase, it was found that "real" earnings of labor per week in manufacturing were 40 per cent greater in 1929 than in 1914; in electric generating plants, 38 per cent; in gas plants, 33 per cent; and on the railroads, 30 per cent. Wage rates per hour in the building trades were 46 per cent higher in purchasing value than in 1914.

As to wages paid for varying degrees of skill in manufacturing, the study reveals that skilled and semi-skilled men workers in 1929 averaged \$32.58 per week, unskilled male workers \$25.49, and women workers \$17.67. Highest wages per week paid to skilled and semi-skilled male workers, \$45.74, were received in news and magazine printing. Among unskilled male workers, highest wages, \$29.02, were received in the chemical manufacturing industry, while highest wages paid to women workers were received in news and magazine printing and in agricultural implement manufacturing, the averages for the two industries being, respectively, \$21.36 and \$21.34. Excluding the Southern cotton

industry, where wage equivalents are probably more prevalent than in other industries, lowest wages paid to skilled and semi-skilled male labor, \$24.52, were received by workers in the Northern cotton mills; lowest wages received by unskilled male workers, \$19.47, were also paid in the Northern cotton manufacturing industry; while lowest paid women workers were those in the leather tanning industry, who averaged \$14.32.

With respect to increases since 1914 in weekly earnings of labor in manufacturing, the study discloses that unskilled male workers have fared relatively better than the other two labor groups. Variations in wage increases for the various labor groups since 1914 were also noted in industries other than manufacturing. In gas plants, both hourly and weekly earnings advanced relatively higher in the case of unskilled than skilled and semi-skilled workers, while in electric generating plants and on the railroads the earnings of skilled male labor increased to a greater extent than those of unskilled labor.

### \$1,500,000 Florida Resort Proposed

Melbourne, Fla.—Plans are being made by the Mandalay Club here of which E. H. Wade is president and Elton Hall, originator and promoter, for developing a \$1,500,000 resort on 240 acres overlooking the Indian River and through which the Dixie Highway extends. The development will be featured by a 150-room hotel, yacht club, golf club, riding academy, water theater, swimming pool, four docks, two yacht basins and other facilities. W. H. Christen is the architect and J. P. Hunter, engineer.

# A Maryland County Solves Farm-to-Market Road Problem

Kent County Effectively Lifts the Farmer Out of the Mud by Building  
51 Miles of Single Track Hard Surfaced Roads in One Year

"BE it enacted by the General Assembly of Maryland that the Board of Commissioners of Kent County, be and they are hereby authorized and empowered to issue serial coupon bonds on the faith and credit of said county, to the amount of \$900,000," reads Section 1 of the Kent County Road Bill of 1929 approved by the legislature of Maryland on April 11, 1929. This bill, which provided for funds for building single-track concrete roads and another bill authorizing issuance of \$100,000 for slag road construction was the legal beginning of an agricultural county's solution of the farm to market problem. Now the county has 51 miles of single track concrete roads, as well as slag roads and the regulation width State highways which connect its county seat with the more important centers.

In 1927, following enactment of the four-cent gasoline tax law the State Roads Commission built two nine-foot concrete roads in Kent County. Visions of progress were

dimmed by the thought that 20 or more years would necessarily elapse before comfortable travel could be made over

the county's secondary system of roads. Some public spirited citizens of the county, however, hit upon the fact that the 2.87 miles of 16-foot concrete road allowed the county could be nearly doubled by reducing the width of surfacing in the county's secondary system to nine feet. And so was conceived the idea of constructing single track roads.

## Features of Kent County Secondary Road Program

¶ Evolution of the present complete road system began when the idea was conceived that the mileage of hard surfaced highways on the county's secondary system could be nearly doubled by reducing the surfaced width from double track to single.

¶ A plan was developed to bond the county for \$900,000 for approximately 50 miles of 9-foot concrete roads, and \$100,000 for 50 miles of slag roads.

¶ The State Roads Commission agreed to allow a certain portion of Kent County's allotment of gasoline tax to be used each year to liquidate the bonds for concrete roads, and also agreed to construct and maintain concrete roads as part of the state system.

¶ The county agreed in the yearly levy to assess taxable property a sufficient amount to pay the interest thereon.

¶ The county pays both interest and principal on bonds for slag roads which were built and will be maintained by the county.

The mileage of the county's important secondary roads unpaved in 1928 amounted to about 68 miles, with an additional 80 miles of still-to-be improved tertiary roads. There also were 157 miles of roads where traffic was negligible. Kent County soil is mostly loam. Roads underlain with this soil are passable in the summer months, but during heavy rains, winter freezes and thaws automobile travel is difficult and the movement of horse-drawn vehicles is almost as seriously impaired. Under such circumstances outlying farms are cut off from fire protection and in event of illness physicians could reach the sufferer only by slow and tedious



Typical Kent  
County Road  
After Spring  
Thaws and  
Rains

Modern Road  
on Kent Coun-  
ty's Secondary  
Highway Sys-  
tem





traveling. As provided by the county's then existing road program little hope was entertained for improvement of roads to the ends of the various necks of land along Kent's 209 miles of waterfront.

Then the Kent County Chamber of Commerce got behind the project. Investigations covering the cost of operating the average motor car on different type roads showed that two

and a half cents more was required for repairs and fuel on dirt roads than on concrete. Through a committee the chamber formulated a plan whereby the county could be bonded for \$1,000,000, the principal on \$900,000 of which was to be repaid by the county's share of the



Improved Highways Facilitate Rural Mail Delivery

State gas tax and the remaining \$100,000 to be liquidated by the county. The plan provided for a \$900,000 investment in nine-foot, or single track concrete roads and \$100,000 in slag roads, the former to be constructed by the State and to become a part of the State sys-

tem, the latter built and maintained by the county. Issuance of bonds to provide these funds was favorably voted upon by Kent countians on May 11, 1929. Indicative of the favor with which the project was received locally is that in building the concrete roads all property for rights-of-way was given without cost. Fifty-one miles of single track concrete roads were

constructed in the period to May 26, 1930, when the new county system was officially dedicated with appropriate ceremonies.

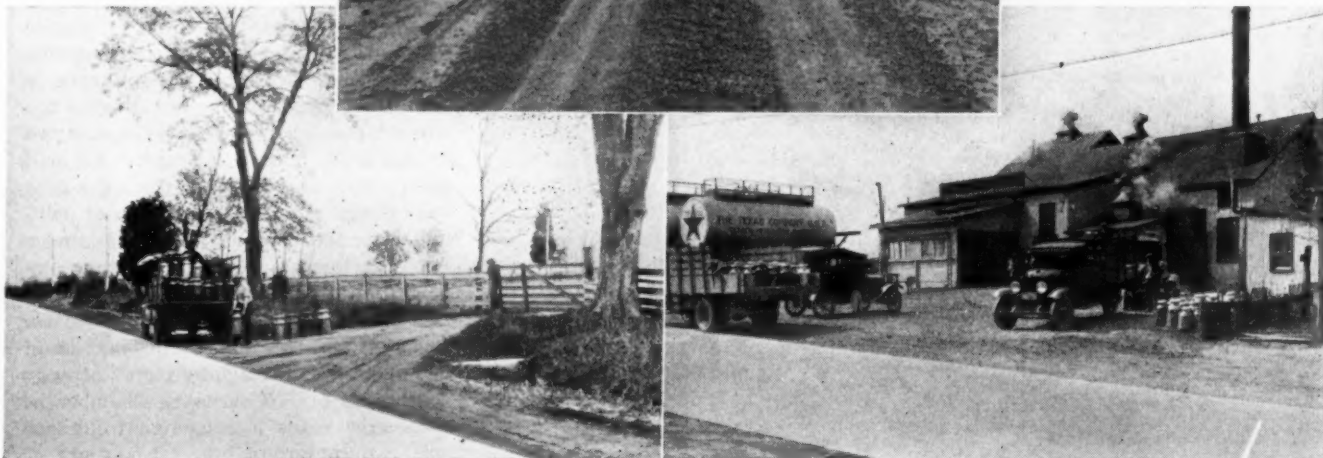
Now Kent County faces a future ro-  
seate with possibilities. School buses  
traveling the new roads afford higher



Above—On such roads as are likely to become main thoroughfares because of future development the concrete slab was laid on the side of the road with six feet of slag on the opposite side, making virtually a double track highway.

Right—A nine-foot slag road on the tertiary system, connecting farm homes with concrete highways.

Above—In the "necks" or in less important roads where traffic is not likely to increase materially the slab was laid in the center of the right-of-way with three-foot slab shoulders on each side, thus providing sufficient space for passing vehicles. The cars shown here are passing on a highway where the slab is in the center of the right-of-way.



Improved Highways Stimulate Agricultural Diversification and Increase Dairying Operations



educational facilities to a greater number of children. For in addition to high schools a college course at Washington College, Chestertown, the county seat, is available to county residents at a minimum cost. The turkey business also has greater potentialities. Formerly progress of this industry, which has its busiest time during the muddy season, was greatly retarded by the mire. Local garages were constantly on call pulling heavy cars out of the mud, and such experiences on the part of visiting purchasers of fowl for both breeding and the market did much to discourage second visits. The egg trade also suffered because of the almost impassable roads. To bring the top prices eggs must be fresh. When the roads were in poor condition the eggs could not be taken to the market. Another activity handicapped by road conditions was disposal

of the corn crop. Very often the corn had to be stored in the farmers' own bins, which delay frequently meant loss in profit. All of these inconveniences have now been eliminated and in addition residents can reach the county's mercantile establishments, thus keeping in the county money that otherwise would be expended with outside mail order houses. Physicians' burdens were lightened; and mail deliveries were facilitated.

Governor Albert C. Ritchie of Maryland, in dedicating the new system of roads, concluded his remarks with the following statement:

"This is a historic occasion. Kent County is pointing the way, as a pioneer, in the solution of the local road problem in our state."

Completion of this job in record time was due largely to efforts of the Kent

County Chamber of Commerce, of which Mrs. Nell C. Westcott is executive secretary and Dr. Paul Titsworth is president, combined with the cooperation of the State Roads Commission, which handled construction and engineering features of the concrete roads, the County Commissioners, the Farm Bureau and the Portland Cement Association, to whom an appeal was made for educational literature and data.

Contractors for the concrete roads were: Old Line Construction Co., Chestertown, Md.; P. D. Phillips & Brothers, Salisbury, Md.; Aiello Construction Co., Rock Hall, Md.; George & Lynch, Dover, Del., and W. W. Truitt, Lincoln City, Del. Russell & Major, Frederick, Md., were contractors for the slag roads, which were built under the supervision of Gilbert Taylor, county road engineer.

## Tractors See Varied Use in Pipeline Construction and Oil Field Operations

In addition to performing a number of different kinds of heavy hauling work, much of it in rough, rocky, wooded, or swampy country, powerful specially equipped tractors of the internal combustion type are being increasingly utilized to do a number of special jobs in the oil industry. Tractors have been playing a noteworthy role in speeding construction of thousands of miles of pipe lines—oil, gasoline and natural gas—built recently and now under construction for the efficient, long-distance delivery of various products from producing areas. In the accompanying illustration is shown one of these tractors, a McCormick-Deering unit equipped

with crawlers and pipeline boom, at work in a hilly section of Oklahoma laying a long section of 12-inch pipe consisting of several lengths that previously had been electrically welded on the location. This pipe is part of the Texas-Empire line running from Drumright, Okla., to Lockport, Ill.

Another interesting oil-field job, quite generally performed by tractors of this type equipped with special winches, is that of pulling rods out of wells for renewing suckers and making pump repairs, and also for pulling out the tubing inside which the rods move for cleaning and baling sand and slush from the well bottoms. The weight of the

thousands of feet of rod or tubing used in a single well is considerable, so large brakes are used. With such brakes the work of pulling out tubing may be stopped quickly and with safety at any time. Speed in performing this important work is the big advantage in favor of power-operated winches, making it possible to pull rods from wells of say 3000 to 6000 feet in depth and replacing them the same day.

### \$500,000 Carbon Black Plant Projected

Sayre, Okla.—Plans are being made for a \$500,000 carbon black plant near Sayre by the Oklahoma Carbon Industries, Inc., according to Fred L. Coogan, Sayre, who is identified with the company. Mr. Coogan is also identified with the Westoak Gasoline Co., which plans to build a casinghead gasoline plant at a cost of \$125,000. Work on both projects will be started at once and construction is expected to be completed within 90 days. The two plants will consume about 15,000,000 cubic feet of natural gas daily, the gasoline to be extracted before the gas goes to the carbon black plant. A siding to the site of the latter is being constructed by the Rock Island Railroad. Gas will be supplied to the plants from the field near Sayre, where prospecting and drilling for additional gas wells are under way. Several large oil producing companies owning proven gas acreage in the field are expected to build carbon and gasoline plants to protect their acreage from drainage by plants already contracted for. The Sayre Chamber of Commerce plans a campaign to induce tire manufacturers and other users of carbon black to locate plants.



McCormick-Deering Unit Laying Section of 12-Inch Pipe in Oklahoma

# Sound Financing in the South Now Stimulates Its Progress

By PROFESSOR CLARENCE E. CASON, University, Ala.

**T**HE South is well on the way toward developing the highest economic stage, that of financing. In proof of this statement, Dr. Lee Bidgood, dean of the School of Commerce and Business Administration at the University of Alabama, cites the significant growth of life insurance companies in the South during recent years.

According to figures compiled by Dean Bidgood, the rate of increase of total life insurance written by Southern companies has been much greater than the corresponding figures applicable to the entire United States. At the beginning of 1929, as shown in the Blue Book of Southern Progress, Southern life insurance companies had a total insurance in force of \$7,417,671,774, and Dean Bidgood estimates that this sum, representing 16 Southern States, is unquestionably above \$8,000,000,000 at the present time.

Calculating on a basis of 14 Southern States, Dr. Bidgood has demonstrated that, during the 15 years following 1912, the rate of increase for Southern companies was 433.3 per cent, as compared with 394.9 per cent for the whole United States. That Southern companies now have in force \$374,000,000 more insurance than was on the books of companies throughout the United States in 1912 is another key statement bearing on the point.

The South's first economic phase was agricultural, according to Dean Bidgood, and when cotton raising became the standard economic activity of the entire lower South every person in the country was comparatively either a prince or a pauper. Like all people who rely entirely upon a single agricultural crop, the people were constantly in debt, and there were interruptions of all sorts to hinder the efficient production of cotton. After 1900, the South began to pass into various phases of an industrial economy. The growth of towns and cities made possible a number of variations of the farmer's steady pursuit of his single crop. Dairying, truck farming and raising poultry became possible as the home markets developed for these products. After this small beginning, there came the epochal industrial development of the South, which has been the main program of the immediate past. The story of the rise of manufacturing in this section is a familiar one.

Just as the industrial stage grew up

alongside the old single-minded agricultural pursuits, it is now apparent that an even higher economic era, that of financial management, is coming into a definite form in the South. Capital funds for the financing of home industries are being accumulated. Since it has been estimated that every billion dollars of insurance represents 1000 employees in the home offices, the contribution of insurance companies as a source of employment is not to be overlooked.

The development of the insurance phase of the great, constructive economic movement is shown in the fact that Southern companies had only \$609,000,000 of life insurance outstanding in 1912—the year in which this aspect of financial development may be said to have commenced in the South—while at present the South has about 20 insurance companies in the \$100,000,000 class, an aggregate of approximately \$2,000,000,000.

Dean Bidgood calls attention to the fact that no country can achieve the highest levels of wealth and prosperity until it begins to finance itself. Yet, he emphasizes the point that the appearance of the financial stage in the South does not by any means indicate the passing of agriculture and the more elementary phases of industry. The rise of manufacturing did not mean the decline of agriculture and the other extractive industries. Far from it. They have prospered by having a market at home. Conservation of resources really began in the South when great manufacturing industries of a permanent type started operations in this section. Such industries demand a steady and lasting supply of raw materials.

The essential advantages of the South over such areas as England, New England and South America rest on the South's wealth in an amazing variety of natural wealth both in vast land areas and in the fundamental requirements of industry. On account of the limited area of England and New England, it was necessary for agriculture to retire to the background when industry forged to the front in those sections. In the South, however, the coming of industry does not monopolize the land; it rather supports and definitely assists agriculture. South America may be expected to compete in so far as certain staple crops are concerned, but the lack of fundamental industrial necessities such

as water, coal and oil will prevent South American regions from becoming really competitive with the South in a large industrial sense.

Therefore, the development of the South at present is going forward in such a way that agriculture, industry and finance will be coexistent and mutually supporting. For instance, the progress of certain types of manufacturing will soon indicate the advisability of having thousands of Southern acres revert to forestry. Agriculture and other extractive industries will support manufacturing; both classes of activity will support the financing process, which in its turn will render a solid background for the more elementary economic stages.

Thus it may be clearly seen that a strict analysis of conditions indicates the fundamental soundness of progress in the South and supplies ample evidence for the belief that the South is inevitably destined to proceed steadily toward higher planes of wealth and prosperity.

## \$2,000,000 Dallas Building

Dallas, Tex.—Plans have been announced by Dr. John O. McReynolds of this city, through H. W. Bouse, for a \$2,000,000 building of 25 stories at Live Oak and Harwood streets, construction to begin as soon as drawings can be completed. The structure will be designed especially for the use of physicians and will contain hospital facilities. It will be 135 by 160 feet, with set-backs at the fifteenth, eighteenth and twenty-first floors, providing a floor area of approximately 140,000 square feet. Flint & Broad, Dallas, are the architects.

## West Point Hotel Remodeled

West Point, Ga.—The Charles Hotel here, the property of the Atlanta and West Point Railroad Co., Charles A. Wickersham, Atlanta, president and general manager, was recently remodeled and newly equipped. In addition to the improvements on the building and its refurnishing, a considerable amount of money has been expended for beautifying the grounds, a pleasing feature of which is a miniature park. Joe C. McCord is the proprietor of The Charles.



## Jackson Adds a New Source of Wealth to Resources of Mississippi

By

L. E. FOSTER,  
Executive Vice-President,  
Jackson Chamber of Commerce

NATURE'S recent gift to Mississippi from its bountiful and unfailing resources is natural gas at Jackson, in what now appears to be unlimited quantity. Seven gas wells already have been completed and are yielding approximately 150,000,000 cubic feet daily, with rock pressure of about 1000 pounds. Fifteen other wells are being drilled and from them large producers are expected at any time.

That the Jackson gas area is of tremendous proportions is attested by the

*WITH the prospect of an unlimited supply of natural gas at low rates for industrial and commercial purposes another source of wealth will be added to this rapidly growing center in the heart of Mississippi.*

ties through pipe lines to other states. One great handicap to Mississippi's manufacturing interests in the past has been the rather high cost of fuel, it being necessary to bring in coal from other states. Jackson's outstanding need for industrial development has been cheap fuel.

The Jackson anticline has been spotted by leading geologists as a vast oil field; however, practically every well drilled close in on the structure has produced gas at a depth of about 2500 feet. One can readily see that, although in quest of oil with the drill bit, it is rather hard to pass up a flow of twenty to fifty million cubic feet of gas per day, which rushes in from a depth of 2500 feet.

The chief concern of Jackson today is: What shall be done with the surplus? Prior to discovery of natural gas here, the city's consumption of artificial gas was only about 12,000,000 cubic feet per month, and should Jackson imme-

diately double its daily gas consumption, it would still leave at present more than 125,000,000 cubic feet surplus per day that must be utilized in some other manner. This situation presents an excellent opportunity for the full development of this great gas reserve east of the Mississippi River.

This fuel supply will mean new industrial development for Jackson, especially in those industries that require large quantities of fuel, such as paper mills, rayon plants, textile mills, glass factories, ceramic industries, automobile tires, various wood using plants, lime, etc. Jackson has more than doubled its industrial activities during the past seven years, 44 new manufacturing plants having been located here together with a large number of distributing houses and agencies. Most of the industries have been of somewhat modest type, but they have been well diversified, a fact to be looked upon with favor. However, it is quite apparent that Jackson is headed for some large industrial plants. The activities of outside concerns point in that direction.

Jackson offers advantages in cheap fuel, abundant raw materials and labor, and good housing and distribution, and less overhead all the way through. Our invitation to industry is to send engineers and representatives here for personal and private investigations, and it is our sincere belief that Jackson will win high favor with the manufacturer and the investor.

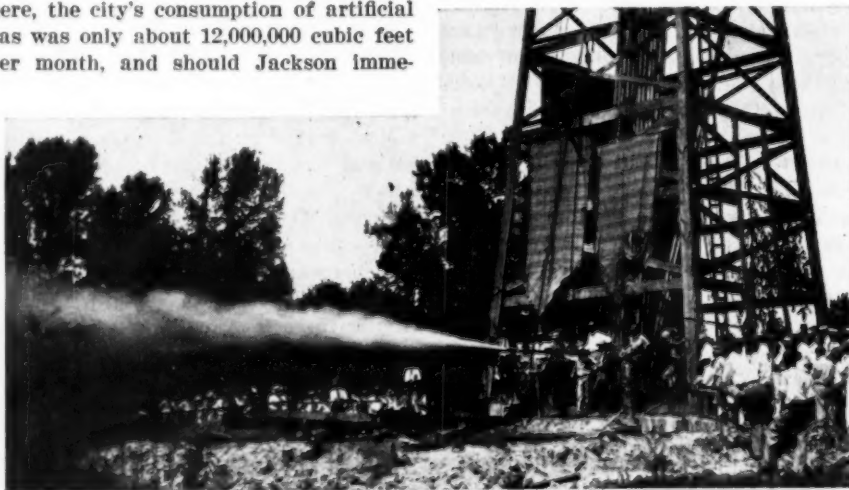
Jackson is not a boom city, even though there is a big development here in oil and gas. The city is on too solid a business and economic foundation to



Littlefield No. 1 Well in Rankin County Came in with an estimated daily flow of 60,000,000 cubic feet of gas, free from water

spread of proven wells, which are five miles apart and indicate an already proven area of 25 square miles. Another interesting feature in this new field is that it is all located practically in the corporate limits of the city of Jackson and, almost without doubt, the major portion of Jackson's valuable business district is sitting over a great pocket of natural gas.

Jackson's gas field is yet in its early stages of development, only a few wells having been completed, and less than a year's time has elapsed since the first effort was made to bring in natural gas. It now appears that Jackson is going to be able to supply virtually every city and hamlet in Mississippi with fuel in the form of gas and send vast quanti-



Hutton No. 1 Well, Blowing In With 22,000,000 Cubic Feet of Gas Daily



## Recent Additions to Jackson's Skyline

Over  
\$4,000,000  
Is Involved  
in Six Major  
Projects  
Completed  
During Past  
Six  
Months  
or Now  
Under  
Construction

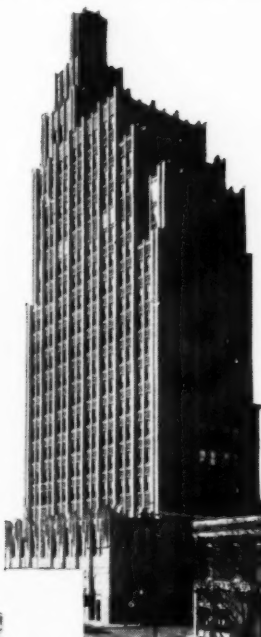


Jackson Has  
538,000 Square  
Feet of Office  
Space, Splendid  
Hotels,  
Commercial  
Buildings,  
Beautiful  
Residences  
and Modern  
Schools and  
Churches

\$850,000 Hinds County Courthouse Under Construction.



\$300,000 Walthall Hotel



\$750,000 Jackson Tower



\$750,000 Merchants Bank



\$600,000 Standard Life Building



\$750,000 Robert E. Lee Hotel

lose its head. Prosperity is not a new term for Jackson, as its population has increased from 22,817 in 1920 to 48,298 in 1930, a gain of nearly 112 per cent, ranging eleventh in the United States in population gain. In 1929, Jackson had a building program of \$6,500,000, while in 1930 it will surpass \$8,000,000.

During the past seven years, Jackson has erected six large office buildings, ranging from 10 to 20 stories in height and totaling 266,000 square feet of floor space, at a cost of \$3,750,000. Total office floor space of the city is 538,000 square feet. During this same period there were built in this city five modern hotels, at a cost of \$3,215,000, providing 1136 rooms, in addition to those supplied by other hotels. More than \$1,000,000 has been spent on new school buildings, to provide for the school population which has more than doubled. To house the rapidly increasing population, 2560 new residences and 120 new apartment houses have been erected, at a total cost of \$13,203,000. For increased transportation facilities, \$10,175,000 has been spent within the last few years.

Development in municipal property and other lines has been proportionate.

#### **\$1,000,000 Hotel for Greensboro**

Greensboro, N. C.—Plans are being made for erecting a 13-story hotel here at a cost of \$1,000,000 and work is ex-

pected to be started soon. The Jefferson Hotel Corp. has organized with H. A. Moffitt, High Point, N. C., president, to carry out the project, with an authorized capital stock of \$1,250,000. Herbert Hunter, High Point, is the architect.

#### **72-Acre Chevy Chase Development**

Chevy Chase, Md.—The development of Meadowbrook in Chevy Chase, undertaken by Monroe and Benjamin S. Warren, Jr., of Washington, involves the first section of 12 acres on which work is now under way, and a tract of about 60 acres south of and adjoining the Columbia Country Club. David J. Howell and Son, engineers, Washington, have charge of the grading and will have charge of the installation of surface improvements. Grading on the initial development involved about 64,000 cubic yards, for which contract was awarded to the Bright-Shepherd Co., Washington. This work will probably be completed by the middle of August. Sewer and water installations will be handled by the Washington Suburban Sanitary District, Washington. The owners are building detached residences on the property and have completed the first group of five.

#### **Six Buildings for Negro College**

Little Rock, Ark.—A scheduled building program for the Philander Smith College, a negro institution of this city contemplates the erection of six structures at an approximate cost of \$300,000, according to plans by Thompson, Sanders & Ginocchio, local architects. The buildings will occupy a campus of 16 acres bounded by Sixteenth and Twentieth streets on the north and south and by Washington street on the east. They will include a main academic building with auditorium, class rooms and administration offices; high school building for teacher training; dormitory for 100 girls and one for 60 boys; dining hall with domestic science department, and a residence for the president. Construction will be of red brick, stone trim, terrazzo corridor floors and metal windows. An athletic field will be provided with a stadium.

#### **\$640,000 for Army Project**

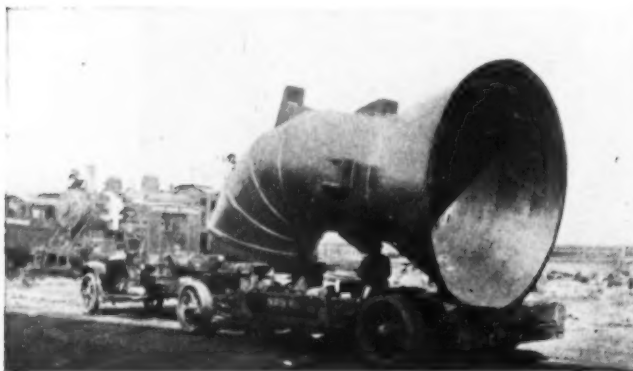
Fort Bragg, N. C.—Proposals will be opened August 15 by Captain Lawrence L. Simpson, Constructing Quartermaster at Fort Bragg, to erect 16 non-commissioned officers' quarters, 8 field officers' quarters and 26 company officers' quarters at this camp, estimated to cost \$640,000.

## **Large Welded Pipe on New Orleans Water Project**

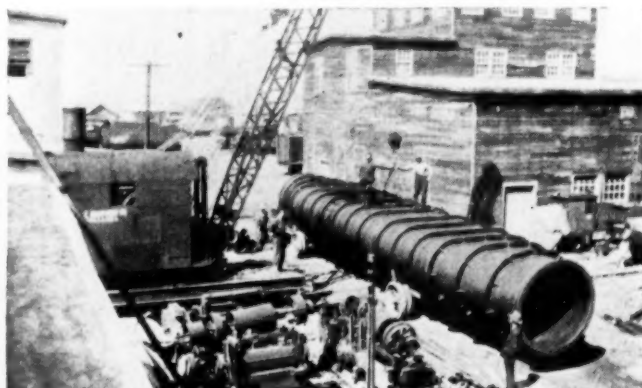
In connection with improvement of the drinking water supply of New Orleans there was recently constructed and installed what is believed to be the largest welded steel pipe ever used for such purposes. The municipal water purification plant draws its entire supply from the Mississippi River and has extended its capacity to 112,000,000 gallons daily. A new low lift pumping station near the river has been built to draw the necessary water and pump it

to the central-plant. The intake pipe, constructed of  $\frac{1}{2}$ -inch steel, measuring 72 inches in diameter and extending approximately 700 feet in length, was built and installed by the Welded Products Company of Louisiana, New Orleans. From the large intake-bell, guarded by a specially constructed steel screen, the pipe line rises with the slope of the river levee. On top of the levee the pipe changes its round profile to a flat oval, thereby increasing its width to

120 inches and decreasing its height, thus keeping the levee height as low as possible. Then the pipe, round again, lowers with the fall of the levee to the pumping station situated alongside the highway which follows the levee. The pipe is of all-electric welded construction, tested for maximum pressure of 20 pounds and a vacuum of 30 inches. A. Baldwin Wood, mechanical engineer of the Sewerage and Water Board of New Orleans, designed the project.



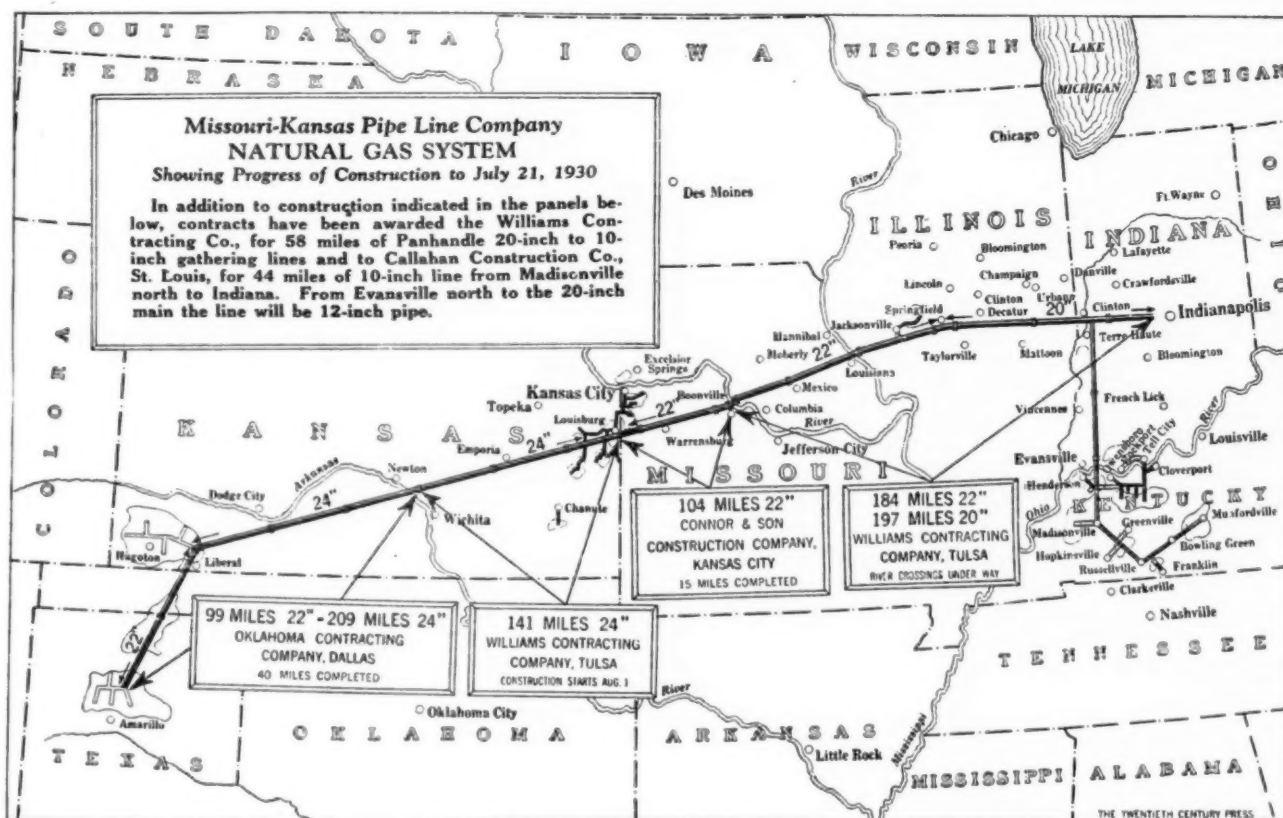
The Intake-Bell Through Which the Water Enters the Pipe Line from the River. A Steel Screen Protects It



Section of Intake Pipe Which Has a Total Length of 700 Feet

# Rush Construction on 1250-Mile Underground Transportation System Across Seven States

Missouri-Kansas Pipe Line Co. Speeds Big Job by Five Crews, Working on Separate Sections of Line — Laying Nearly 60 Miles of Gathering Lines in Texas Panhandle



Pipeline System Now Under Construction to Serve Big Expanse of Territory

Five pipe line construction companies now have crews at work on the 1250-mile Missouri-Kansas Pipe Line Company's new system, extending from the Texas Panhandle through Oklahoma, Kansas, Missouri, Illinois, Indiana and Kentucky.

A contract has been awarded to Williams Brothers, Inc., Tulsa, for constructing approximately 58 miles of gathering lines in Moore, Hutchinson, Potter and Carson counties, Texas. That company is now laying multiple lines across the Canadian River, north of Amarillo. Gathering lines range in size from 20 inches down to 10 inches and will join a 22-inch main line near the southeast corner of Moore County.

The Oklahoma Contracting Co., Dallas, has a construction crew building a 22-inch main line north toward Okla-

homa, and approximately 40 miles of line have been completed from the starting point.

In Missouri, Connor & Son Construction Co., Kansas City, has completed approximately 15 miles of 22-inch line east from the Kansas-Missouri line toward Boonville, Mo., and in Kentucky two other contracting companies are at work.

The Southwestern Construction Co., Tulsa, is rushing to completion an 8-inch line extending from the center gas field of Metcalfe County, southwest past Bowling Green to Russellville, while the W. E. Callahan Construction Co., St. Louis, has contract for building a 10-inch line from Madisonville north across the Ohio River where it will connect with a 12-inch line northward to a junction with Missouri-Kansas' major trunk line from the Texas Panhandle. This connection of the Kentucky producing

area with the larger system will be made north of Terre Haute, Ind.

Missouri-Kansas has just completed a gas line from the Ohio County gas field in Kentucky north across the Ohio River into Indiana, serving the communities of Whitesville, Hawesville, and Cloverport, Ky., and Cannelton, Ind. This line will be continued to include Tell City, Troy, Grandview, and Rockport, Ind.

## Work Soon on \$1,000,000

### Federal Building

Tulsa, Okla.—Plans and specifications for the new \$1,000,000 federal building here are being completed in the office of Jas. A. Wetmore, Acting Supervising Architect of the Treasury Department, Washington, and will be ready for bidders about August 6. Contract is expected to be awarded within 30 days thereafter.



### Long Strides in Ten Years

By RAYMOND C. HALL,  
Richmond, Va.

Just 10 years ago, Joseph B. Baker started a modest little business in an unpretentious shed on the outskirts of Richmond; today, the Baker Equipment Engineering Company occupies a plant of more than 20,000 square feet and has established at Charleston, W. Va., a branch which is a complete plant in itself.

The original little enterprise has developed into a concern selected by prominent manufacturers of motor truck equipments as their exclusive representatives in Virginia, West Virginia, North Carolina and South Carolina. Listed among this equipment are hydraulic hoists, mechanical hoists, steel dump bodies, gravity dump bodies, high-lift coal bodies, three-way dump bodies, lumber dumping bodies, gasoline tanks, cabs, stake bodies, express bodies, panel bodies, bottler's bodies, school bus bodies, special bodies of all descriptions, overload springs, power winches, hand winches, pole setting derricks, log loading winches, auxiliary transmissions, wheelbase extensions, dual wheel equipment, cushion tires, governors, trailers, six-wheel attachments, and other equipment for the motor truck.

According to Mr. Baker, president of the company, 1929 was the greatest year for Baker equipment and the first five months of 1930 indicate that even this fine record will be bettered this year.

"We are particularly proud of the unusual growth of our organization because it proves that our efforts to serve quickly, efficiently and economically, by applying modern and tried engineering methods to each individual equipment problem, have been of real, constructive value in our field," Mr. Baker says.

Encouragement for better conditions is found by Mr. Baker in the fact that the truck dealers whom his company serves "are all going ahead" and reaching for new records.

### Plans for \$8,000,000 Port

Brownsville, Tex.—Actual work on a deep water port for Brownsville is expected to begin within three months, according to G. C. Richardson, manager of the Brownsville Chamber of Commerce. The Rivers and Harbors bill, recently signed by the president, authorizes an appropriation of \$4,500,000 for the port, while Brownsville has voted and will soon sell bonds in the amount of \$3,500,000 to meet government requirements of about \$2,000,000 and for

the construction of wharves, docks and other port facilities. The port will extend from the Brazos-Santiago Pass to a point about three and one-half miles from the city, involving the construction of jetties on Brazos and Padre islands and a 25-foot channel, 100 feet wide at the bottom, to the turning basin, a distance of about 17 miles. The turning basin will be 1000 feet wide. Provision was made in the Rivers and Harbors bill that Point Isabel, through its district, could connect with the Brownsville channel at its discretion. The Brownsville Navigation District, John Gregg, chairman, J. G. Fernandez and Z. A. Rosenthal, will handle details of the project on the part of the district.

### 16 Elevators for New Building

Fort Worth, Tex.—The American Elevator & Machine Co., Louisville, Ky., has been awarded contract at approximately \$300,000 for installation of elevators in the \$6,000,000 freight station and office building and \$2,000,000 passenger station being erected here for the Texas & Pacific Railway Co. Four elevators will be installed in the passenger station and eleven freight elevators and one passenger elevator in the freight station and office building. Wyatt C. Hedrick, Inc., Fort Worth, is the architect for the buildings and P. O'Brien Montgomery, Dallas, is the general contractor.

## To Build More Electrically Welded Vessels

Following the successful operation of an electrically welded oil tank ship by the Texas Company, in Elizabeth City, N. C., the Charleston Dry Dock & Machine Company, of Charleston, S. C., which built the craft, is estimating on six more vessels of the same type and also is building a boat at Brooklyn under royalty rights.

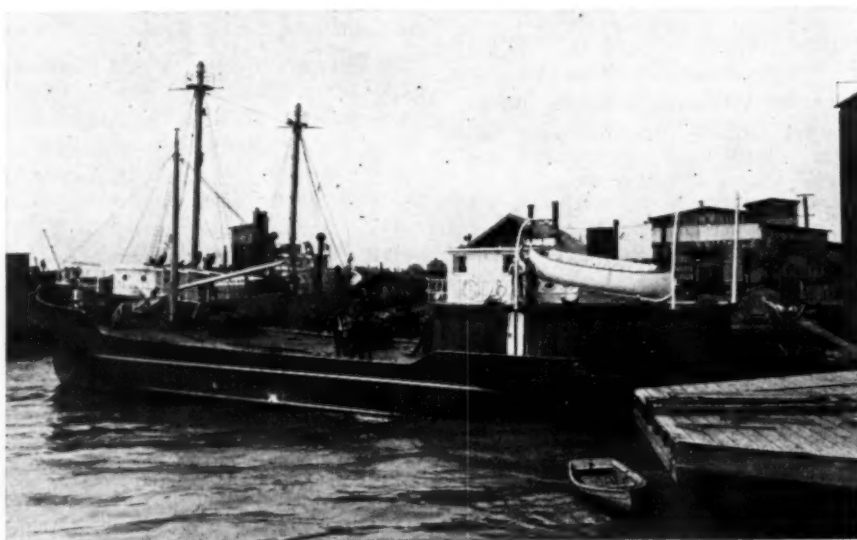
"Since this boat has been in operation, starting in March, we have placed it in drydock twice to notice if there were any leaks or distortion, and so far we have been unable to find any," writes C. V. Boykin, vice-president and general manager of the Charleston concern.

This electrically welded, and rivetless vessel is of 2500 barrel capacity, 120 feet long, 23 feet wide and of 10-foot draft, and as far as is known is the largest boat in which the entire construction was made by the use of the electrical arc, instead of rivets. As described by Mr. Boykin, no fabricating

machinery is needed beyond an acetylene burner and an electric welder.

"In other words," Mr. Boykin adds, "all that is needed is a competent locksmith, acetylene burner and a first-class electric welder. The rapidity in constructing this type of vessel depends entirely on the number of welders employed on the job. For instance, we contemplate building a dredge hull for a South American government and the only mechanic going on this job from this yard will be a locksmith. Native welders and cutters and natives for labor will construct the balance of the dredge."

In the construction of the "Carolinian" for the Texas Company, longitudinal frames were used, cut to notch into similar notches in transverse plates and bulkheads, and these members were then welded together. The plating was dovetailed and each seam, backed up with a longitudinal member, had two deep



First All Electrically Welded Rivetless Vessel

penetration welds inside and one outside. The welding was done by a single WD-300A General Electric welding set, and only one welding set and crew were used in the construction.

About 30,000 feet of electrical welding was required to assemble the ship, requiring 8000 pounds of welding wire. For the same purpose, it is said, 28,000 pounds of rivets would have been necessary, and the saving in rivets is estimated at about 20 per cent in weight and 25 per cent in cost of construction.

"This boat carries approximately 20,000 gallons more than the riveted vessel and costs approximately \$8000 less," says Mr. Boykin.

The labor crew to construct the vessel consisted of nine men, and the additional equipment was an acetylene torch used for cutting. The portable type of General Electric welder was driven by a General Electric FT-15 horsepower motor. The ship was powered by a 180-horsepower full Diesel Fairbanks Morse engine and a 25-horsepower full Diesel cargo pump for discharging oil at the rate of 600 gallons a minute.

Mr. Boykin and R. F. Smith worked out the construction system.

### Industrial Survey Kentucky Towns

Within a short time the American Mining Congress expects to have available for the Kentucky Progress Commission a detailed industrial survey of all of the cities and towns of any significance in the State, which will form the basis for the continued industrial development of the commonwealth. This survey has been conducted by Dr. Henry Mace Payne, consulting engineer and geologist, in which he has received for the American Mining Congress and the Kentucky Progress Commission the co-operation of industrial leaders and business men of the various cities. When completed the data will be available for free use by interested parties on application to the executive offices of the Kentucky Progress Commission at Frankfort.

### \$500,000 Federal Building

Baton Rouge, La.—Bids will be opened August 27 in the office of Jas. A. Wetmore, Acting Supervising Architect of the Treasury Department, Washington, for a site for a new \$500,000 federal building. Proposals will be received for sites for other Southern structures as follows: August 1—Sweetwater, Tex., Key West, Fla., and Shreveport, La.; August 4—Brownsville, Huntsville and Coleman in Texas, and Frederick, Okla.; August 6—Houston, Tex.

## Reconstructing a Southern Pacific Railroad Embankment by Unusual Methods

In order to improve operating conditions on its line from Dallas to Houston, the Southern Pacific Railroad Co., recently found it necessary to renew a soft fill embankment at Benchley, about 100 miles north of Houston. An unusual method was employed in the reconstruction operations.

The old fill embankment, which was approximately 3000 feet long and about 100 feet wide at its base, consisted of approximately 100,000 cubic yards of a rather soft, saturated clay-like material—an unstable formation that over a period of years had been spreading to each right-of-way fence. The spreading of the embankment necessitated raising of the tracks several times and the use of a large amount of ballast. Because of the difficulties encountered the road's engineers decided to remove the old embankment completely and to rebuild it with suitable material.

Dirt was first dumped on one side of the embankment so as to provide space for a by-passing track. A section of the main line track was then removed at this point, and the side of the old embankment dug away completely and cast near the right-of-way fence. This work was done with the aid of two 1-yard Link-Belt crawler draglines, which the contractor equipped with buckets of  $1\frac{1}{2}$  cubic yards capacity. Sixteen Western air-dump cars of 16 cubic yards capacity each were used for hauling materials. A  $1\frac{1}{4}$ -yard Link-Belt shovel handled loading operations at a point about four miles from the embankment. The new material was of a hard formation, but each car was loaded in 10 to 12 minutes and 48 cars were loaded daily. Hauling operations were hampered considerably by the need for

clearing the track for the passage of trains. Following each unloading, the material was spread by a Jordan ballast spreader, and the track was moved a sufficient distance at proper intervals to allow for dumping and spreading. A leveling plow accomplished the difficult and time consuming task of grading and leveling—removing the soil left

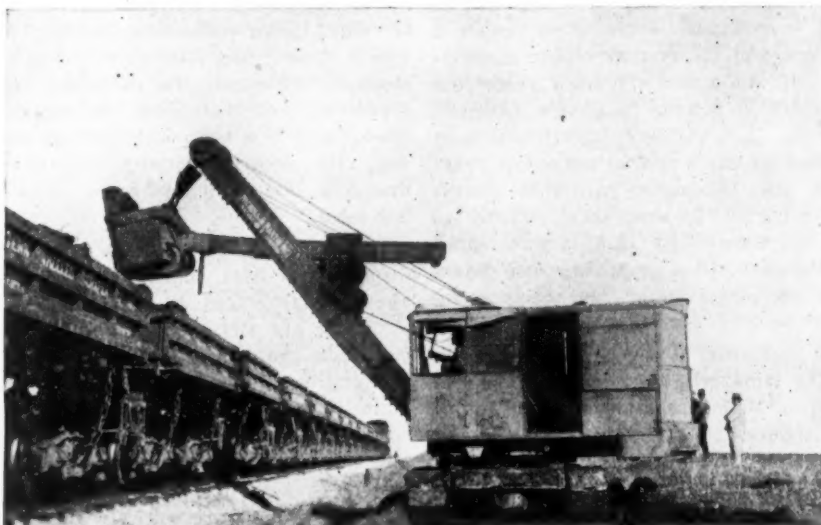


Link-Belt Crawler Dragline Digging Away Old Embankment

above the track plane and pushing it down the slope. This plow cleared the dump and slope so far that the train could dump two or three times in the same position.

The new fill material contained a sufficient amount of fines to form a very compact mass, weighing about 135 pounds per cubic foot.

The contract was executed by W. H. Nichols & Co., Dallas, well known in railroad and municipal construction.



$1\frac{1}{2}$ -Yard Crawler Shovel Loading Fill Material Into Cars



## Testing Several Varieties of Tropical Rubber Plants

### Madagascar Rubber Trees Growing in Florida

Through cultivation and intensive study of a Madagascar rubber plant transplanted in Florida soil, the long dream of rubber production in the South may in time be realized. This plant, known to science as *euphorbia intisy*, has been given a place among the Florida rubber experiments conducted by the United States Department of Agriculture, in which tropical Asia, Africa and South America are represented by "thriving plants," as the department expresses it.

"The manner of obtaining intisy rubber is very simple," Charles F. Swingle, assistant pomologist in the office of horticultural crops and diseases, Department of Agriculture, writes to the *MANUFACTURERS RECORD*. "The latex, which flows from any cut coagulates in the air without further treatment. All that the native has to do is to make cuts in the stem, return in a few days, and pull off bands of rubber of very high quality, especially desirable for the manufacture of automobile tires."

Indeed, to the simplicity of the operation and the completeness and value of the results, Mr. Swingle attributes the virtual disappearance of the plant in Madagascar.

"The yield of rubber from stems less than one inch in diameter," he explains, "is so slight that it does not pay to tap them. However, during the time of commercial exploitation, spiral cuts were made all the way up the tree and yields of 15 pounds or more of rubber would be obtained from a single tree. In many cases, the first tapping was so severe that the tree died outright."

"With the discovery of this plant, in 1891, commercial exploitation followed at once and the annual rubber exportation of Madagascar jumped from less than 50,000 pounds to almost 1,000,000 pounds. The ruthless exploitation soon showed its effect and within a few years intisy had become so rare that observers reported it was very difficult to find specimens. By 1928, it was feared by the authorities on Madagascar plants that *euphorbia intisy* had become entirely extinct."

In that year, however, a group known as the Humbert-Swingle expedition was sent to Madagascar by the University of Algiers, the Arnold Arboretum of Harvard University and the Department of Agriculture, and in the southern part of the island found living specimens of the plant. Twenty entire plants

were brought to the United States and successfully started into growth.

"The small quantity of material which survived the long journey to Washington, is now being studied and propagated at the Government quarantine stations at Washington and in Florida and California," Mr. Swingle adds. "Because seed is not available and it has been necessary to work out the technique for other methods of propagation, the entire supply of plants in the United States today is less than 100. Later on, when plant material becomes available, it is expected that small lots can be placed with interested experimenters in favorable localities, but the present indication is that this will not be possible for some time to come."

As described by Mr. Swingle, *euphorbia intisy* is a shrub or small tree, reported to reach a height of approximately 20 feet, although no specimens of this size are known to exist today. The main stem is upright and frequently branched at the base, but it does not throw up suckers from below the surface of the ground, even after the tops have been entirely cut away. The slender, woody branches are virtually leafless and present a scraggly appearance. The stem remains smooth, protected by a waxy covering, but no cork is developed until after several years.

"The root system of *euphorbia intisy* is apparently unlike that of any other plant," Mr. Swingle writes. "The main roots resemble links of sausage, the constructed portions looking like ordinary woody roots. The fleshy portions are filled with a very watery pulp. These localized swellings constitute the water reservoirs and undoubtedly are the chief factor which enables the plant, which stores practically no water in the stem, to withstand the extremely arid conditions of southern Madagascar, where usually a six-months period without rain occurs annually and where droughts lasting many years are not unknown."

But, while the plant seems immune to drought and heat, much less is known about the resistance to cold.

"There are virtually no weather records from the part of Madagascar where intisy grows," says Mr. Swingle, "and, while it is known that light frosts are sometimes experienced in this region, how severe, how frequent and how injurious they are to the intisy plants are questions which are entirely unknown. Of course, after we learn the conditions

under which the plants will remain alive, we still will know little about the climatic and other factors demanded to make possible the commercial utilization of the plant, and we must await the propagation of a sufficient supply of material for adequate experimentation."

Plants transplanted to this country, however, are known to have survived a temperature of 31 degrees, Fahrenheit.

Experimental plantings of several other varieties of tropical rubber plants in Florida indicated to the Department of Agriculture as far back as December, 1928, that "rubber-yielding trees and vines are able to survive and flourish under Florida conditions," as a department bulletin announced at the time.

## LONG PIPE LINE PROJECTED

### Barnsdall and Continental Oil Interests Plan 1500-Mile System

Tulsa, Okla.—Plans are being made by the Barnsdall Corporation of this city, and the Continental Oil Co., Ponca City, Okla., to build a 1500-mile gasoline pipe line system to connect the refineries of the companies in the mid-continent oil area with Central and Northwestern markets, including the Chicago, St. Paul, Minneapolis, Milwaukee and Omaha areas. The new line would have a daily capacity of 30,000 barrels. Construction will be handled by a jointly owned subsidiary, the Great Lakes Pipe Line Co., and is expected to require ten months.

It is understood that contract has been awarded to the United States Steel Corp., New York, for 4-inch to 8-inch seamless pipe to be welded by a new process. A total of 108,500 tons of pipe in various sizes will be required, according to estimates, and terminals and pump stations will be located on the basis of a survey now being made. Sanderson & Porter, engineers of New York, will soon make a report on the oil phases of the project, which is estimated to cost \$12,000,000.

### Site for \$640,000 Federal Building

Cumberland, Md.—Bids will be opened August 22 in the office of Seymour Lowman, Assistant Secretary of the Treasury Department, Washington, for the sale or donation to the United States government of a site to contain approximately 43,000 square feet, preferably on a corner with a frontage of 200 feet on the principal street, for the erection of a new federal building. With an appropriation of \$540,000 and \$100,000 expected from the sale of the present site, the total amount available for the new building will be \$640,000.



# Clay Resources and Ceramic Development of Oklahoma

By L. F. SHEERAR, A. and M. College, Stillwater, Okla.

**W**ITHIN its boundaries Oklahoma contains practically inexhaustible deposits of shales and clays suitable for the manufacture of common brick, face brick and building tile. They are found in all parts of the State, and geologically are in formations of Silurian, Mississippian, Pennsylvanian, Permian and Cretaceous ages.

The most important shale of Silurian age is located in the Arbuckle Mountains of southern Oklahoma, where it outcrops in several places and is known as the Sylvan shale. It is green or greenish blue in color and has an average thickness of 150 feet. The largest pit in operation is at Lawrence, six miles southeast of Ada, where the Oklahoma Portland Cement Company is using the material in the manufacture of Portland cement.

The Caney shale is the most extensive formation of the Mississippian age. It outcrops in the Arbuckle Mountains and in the Ouachita Mountains in southeast Oklahoma and is 1000 to 2000 feet thick and tests indicate its use for brick and tile.

The most extensive deposits of shale occur in the Pennsylvanian age, which cover approximately 30 per cent of the area of the State. Clays of this age are used in the manufacture of brick and tile at Tulsa, Sapulpa, Muskogee, Boynton, Collinsville, McAlester, Davenport, Pawhuska, Cleveland, Ada and Wagoner.

Formations known as the Permian red beds cover the western half of the State. This is a red shale and is being used at Blackwell and Oklahoma City for the manufacture of brick and tile.

Clays of Cretaceous age are found in the southeastern part of the State and are of dark color and have been used for manufacture of brick and tile.

High grade sand suitable for glass

sand is abundant and found in three general areas.

Extensive deposits of the Simpson formation occur in the Arbuckle Mountains mainly as ledges of sandstone, and Burgen sand, similar to the Simpson, is found in the vicinity of Talequah, where it outcrops along the Illinois River. A third formation, the Trinity sand, is found in the southeastern part of the State, covering an area about 10 miles wide, running parallel with the Red River for about 180 miles. At the present time, this material is mined for glass sand at Madill by the Randolph Silica Products Company.

Practically all the clays and shales used for brick and tile are mined by the open pit method. Usually, the deposits are covered with a small amount of overburden, which generally is removed by scrapers or slack line excavators. Shale planers have been used in some of the larger plants, while others have used power shovels in mining the clay. Transportation from pit to plant is usually accomplished by placing the clay in dump carts and hauling the cars to the plant by cable.

At present, a majority of the clays are being used in the manufacture of common and face brick and building tile. The stiff mud and dry press methods of manufacture are both used extensively. For stiff mud manufacture, the clay is crushed in a dry pan, mixed with water to the desired consistency and extruded through a die and wire cut. The bricks are then stacked on dryer cars and dried in tunned driers heated by gas or coal. Burning is done in scove kilns or round down draft kilns. A variety of colors are obtained by varying the firing conditions. A number of plants operate part time in the making of building tile, for

which there is a good demand. Red flower pots of excellent quality are being manufactured at Stillwater, using a red clay shale. At Ada, a small pottery is making stoneware.

The production of brick and tile in Oklahoma in 1927 had a value of \$1,693,669, and in 1928 the value of clay products, including nonclay refractories, was \$1,726,369, these being the latest figures published.

With rapid growth in population and with development of mineral, agricultural and industrial interests, the demand for ceramic products is ever increasing. It is only natural that a State with such a progressive spirit should desire to develop its ceramic resources of which the following are important: Clays, shales, glass sands, limestone for cement, moulding sand and gypsum. For these ceramic resources there are unlimited quantities of natural gas, fuel oil and coal, all of which are satisfying fuels for burning ceramic ware. Electric power is available at moderate rates, transportation facilities are becoming excellent and labor is plentiful.

To promote this development, the Oklahoma Geological Survey, University of Oklahoma, and the Oklahoma Agricultural and Mechanical College are co-operating in making a survey of the ceramic resources of the State. The Geological Survey is collecting representative samples of clays and these are sent to the clay testing laboratory at the A. and M. College, where they are tested under the supervision of a capable ceramic engineer. When this project is completed, the results will be published.

It is hoped that in the near future Oklahoma owned ceramic plants will be supplying the entire State demand for ceramic products.

## \$300,000 Coal Mine Improvements

Birmingham, Ala.—Improvements now under way at various coal operations of the DeBardeleben Coal Corp. of this city will largely increase the output of the company and involve an expenditure of approximately \$300,000. The company is relocating the railroad at mine No. 33 at Hull in Walker County, rebuilding a washer and installing a new

tipple, tram cars and other facilities which will increase the production from 900 tons daily to 2000 tons. About 200 men are employed at this mine at present. A new washer is being built at Corona mine No. 12; new drifts are being opened at Coal Valley, and the Sipsey and Empire mines are being equipped with mechanical loaders, automatic substations and new portable air compressors. All construction is expected to be completed by November 1.

## Bids on Steel Frame for 20-Story Annex

Dallas, Tex.—The Inge Construction Co., general contractor for a 20-story annex to the building of the Republic National Bank and Trust Company, is ready for bids on the steel frame. The structure will be 50 by 100 feet, to be equipped with 5 elevators, and will cost about \$1,500,000. Coburn & Fowler, Dallas, are the architects.

### St. Louis and Kansas City Win Advertising Contests

In the national contest held in conjunction with the annual convention of the National Association of Real Estate Boards, in Toronto, the St. Louis Real Estate Exchange was awarded the trophy for best newspaper advertising carried on during the year. The St. Louis Exchange exhibited a continuing campaign of display advertising setting forth the opinion of business leaders of St. Louis as to the city's advantages and its future.

The Real Estate Board of Kansas City, Mo., was awarded the trophy for best institutional advertising other than newspaper advertising. The award was made for an extensive radio program.

For best advertising by an individual real estate firm during the past year:

To the Denver National Company, for best advertising of a real estate brokerage service.

To H. C. Thorman, San Antonio, for best advertising in the field of subdividing and home building.

To S. E. Lyons, Toronto, for best advertising of industrial property.

To Carlton Schultz, Cleveland, for best advertising of a property management service.

To the Mutual Realty Company, Penn Yan, N. Y., for best advertising of farm lands.

The annual home town speech contest was won for the Real Estate Board of Kansas City, by Merle Smith, who received the Chicago Cup.

St. Petersburg, Fla., won the attendance contest, the award being based on largest representation at the convention in proportion to local board membership and number of miles traveled from home city to convention city.

### Construction Active in Beaufort Section

Beaufort, S. C.—A very considerable amount of money is being expended in the Sea Island sections of South Carolina and Georgia, especially in the vicinity of Beaufort. The government plans to expend \$1,250,000 for the development of the marine station on Parris Island, and a \$300,000 bridge will be built across Battery River and the marsh from Port Royal to Jerico Joint, joining the Parris Island causeway. F. J. Barnes, Bay Shore, N. Y., purchased the Fort Fremont reservation of 170 acres and will erect a handsome residence overlooking the islands, while Arthur Barnwell, of New York city, who owns a home on the Battery at Charleston, S. C., is erecting a \$150,000 residence on Ladies Island in the Beaufort River, with a swimming pool to be under glass and equipped with hidden electric lights and running warm water.

Shipyard Point on the Beaufort River, near Port Royal, was purchased by J. R. Todd, Camden, S. C., and New Jersey, who is laying out 100 acres or more, and J. K. Hollins has bought Brays Island of 1000 acres on the Poscatallige River for development into a game preserve for duck shooting. In the past year or two, it is estimated that lands in the Beaufort section to the value of \$750,000 have been purchased by various interests for game preserves.

### Bids on \$580,000 Fort Benning Work

Fort Benning, Ga.—Bids will be opened August 22 in the office of Lieut. W. M. Allison, Constructing Quartermaster, for 60 non-commissioned officers' quarters to cost \$420,000 and 8 company officers' quarters to cost \$100,000. The buildings will be one and two stories and basement, brick and stucco, with tile and composition roofing. On August 8 the Constructing Quartermaster will open bids for a \$60,000 dispensary building, two stories and basement, 90 by 38 feet.

### Sales of Clay in 1929

The quantity of clay sold by the producers in the United States in 1929 amounted to 4,347,020 short tons, valued at \$14,850,744, according to the United States Bureau of Mines. These figures show an increase of 8 per cent in quantity and 5 per cent in value compared with 1928. They represent only clay sold as clay or mined under royalty and do not include the much greater quantity of clay that was burned into clay products by the producers themselves from their own property. The leading five States in the order of clay sold were Pennsylvania with 24.3 per cent of the total quantity, Missouri with 11.5 per cent, Ohio with 9.5 per cent, California with 7.1 per cent, and Georgia with 6.6 per cent. The data were collected direct from producers in 44 States and in cooperation with the State Geological Surveys of Alabama, Florida, Georgia, Illinois, Iowa, Maryland, Michigan, Missouri, New Jersey, New York, North Carolina, Oklahoma, Texas, Virginia, Washington, and Wisconsin.

The sales of kaolin, the clay that is

### Appalachian Acquires West Virginia Gas

Huntington, W. Va.—The Appalachian Gas Corp., New York, now owns more than 95 per cent of the outstanding common stock of the West Virginia Gas Corp., Charleston, and has contracted for the purchase of a majority of the preferred stock, according to an announcement here. In turn the West Virginia Gas Corp. owns 95 per cent of the outstanding capital stock of the Monickel Gas Co., which is operated as a subsidiary. Through lease or gas purchase contracts, these two companies own or control gas and oil rights in 52,405 acres of land in the gas producing districts of Cabell, Kanawha, Lincoln, Logan, Putnam and Wayne counties in southwest West Virginia, a considerable portion of which is in the vicinity of Huntington. The properties contain more than 155 producing gas wells with a total capacity of more than 15,000,000 cubic feet daily. The Union Management & Engineering Corp., New York, will supervise operations of the West Virginia Gas Corp.

used in making high-grade pottery and porcelain, as well as paper, oilcloth, and other products, amounted to 518,169 tons, valued at \$4,281,301, an increase of 4 per cent in quantity and 5 per cent in value as compared with 1928. The clay of largest quantity and value is fire clay. The sales of fire clay in 1929 were 3,178,865 tons. This was 14 per cent more than those of 1928, and was the largest recorded. The value of the fire clay sold in 1929 was \$8,107,796, an increase of 8 per cent as compared with 1928.

The imports of clay decreased in quantity but increased in value in 1929 as compared with 1928. The imports of clay amounted to 369,596 short tons, valued at \$3,543,154, a decrease of 0.2 per cent in quantity but an increase of 1 per cent in value. Kaolin, or china clay, constituted 76 per cent of the total imports in 1929. Exports of clay in 1929 amounted to 153,350 tons, valued at \$1,706,082, an increase of 27 per cent in quantity and 23 per cent in value as compared with 1928. Exports of fire clay amounted to 50 per cent of the total.

CLAY SOLD BY PRODUCERS IN 1928 AND 1929.

Kind	1928		1929	
	Short tons	Value	Short tons	Value
Kaolin .....	496,142	\$4,088,003	518,169	\$4,281,301
Ball clay .....	120,878	984,075	118,190	987,306
Ship clay .....	5,699	30,796	6,369	38,582
Fire clay .....	2,785,158	7,480,609	3,178,865	8,107,796
Stoneware clay .....	95,626	207,275	81,456	178,901
Miscellaneous clay .....	522,829	1,409,981	443,971	1,256,858
	4,026,332	\$14,200,739	4,347,020	\$14,850,744



# LETTERS FROM OUR READERS

## "Divide the Day"

Tampa, Fla.

*Editor Manufacturers Record:*

What the workers of this country want is a chance to work, not charity from those more fortunate, and they want it now. Who is going to buy our production if labor has no money with which to do it?

The President's move to embark on a great building program was right and to the point. The time to do public work is when private work is dormant and that condition exists throughout the country today, but it will be months before such work can be gotten under way. Immediate relief is necessary and while it is deplorable to have to acknowledge there is not work enough in this great and supposedly enlightened country to keep all employed, the only practical way to overcome the situation is to share what does exist; in other words, "divide the day." This can be done by using two separate gangs of workers on the same job in the same day; a morning gang and an afternoon gang. This method would probably meet with some dissent from those now in the monopoly of fat jobs, for greed and selfishness would crop out on both sides. But it would put the unemployed at work immediately and it might even be done without supplanting all the forces now at work, depending on local conditions. It would shorten the day in the practical way we hear so much about; yet it would not take out of the day the hours of labor necessary to accomplish any given project profitably and economically. Shifts could be increased to five or six hours if occasion demanded it.

This system could be instituted in the building business with practically no change in arrangement as the day is now equally divided. The afternoon shift could take up the work of the morning gang without friction. The same system could be introduced in almost every other line of work—the factories, the railroads, and even on the farms at harvest time. Compensation would be for the hours worked and it would soon adjust itself.

A movement like this could be advocated from Washington and put in motion almost over night, and for the time being until work became more plentiful. Half a loaf is better than none at all.

FRED J. JAMES,  
President Florida State  
Board of Architecture.

## Not a Cheerful View

Greenwood, Miss.

*Editor Manufacturers Record:*

Your comment on American wages being the basis for prices is true and the stand is well taken.

However, these days of high production by special labor-saving machinery have eliminated great numbers of wage

earners, and the cry of high wages to produce buying power is a camouflage.

The actual wage earner is rapidly becoming an extinct species. The high tension of business has relegated him to the past, unless he has been provident and learned better ways of living, and very few do this. Look around and see who is raising this cry, and it will be found that the wage earner does not know or care about it, unless he is a member of a union or some socialistic society, trying to stir up strife in America.

H. G. KITCHELL.

## A "Red" Sympathizer Who Was Cured After Visiting Russia

L. M. Herrington, M. D.

McKees Rocks, Pa.

*Editor Manufacturers Record:*

I am publishing a cheap paper-back edition of my book, "A Doctor Diagnoses Russia," to sell to manufacturers for free distribution among industrial workers.

We are sitting over a smouldering volcano ready to erupt, while 200 organizations through a most perfect system are spreading propaganda constantly.

I went over "Red" to Russia, but see "white" now since viewing that regime of misguided rulers and blasted experiments.

L. M. HERRINGTON.

## Better Business Situation in Roanoke Draws Unemployed Who Are Not Needed

Chamber of Commerce,

Roanoke, Va.

*Editor Manufacturers Record:*

The population of Roanoke is now 69,156, an increase in the last decade of 18,314. Population of Roanoke County outside the city increased 12,884. This combined increase, if preliminary figures of 2,418,000 for the state are correct, indicates that Roanoke and Roanoke County increased more than 25 per cent of the total figure for the state of Virginia.

Banking resources for the past year increased to \$41,000,000. Bank clearings for 1929 were in excess of \$390,000,000. Post office receipts increased from \$411,399 to \$457,361 in 1929.

Employment conditions and general business in Roanoke have not been affected as seriously as for the country as a whole. This information seems to have spread somewhat so that we have had some unwise migration of unemployed persons to the city expecting employment. Due to Roanoke's location, there has never been a dearth of labor and this condition has resulted in disappointment to a number that have journeyed hither.

H. E. MCREDDY, Manager,  
Industrial Department.

## Why The Farmer Is Suspicious

Talladega, Ala.

*Editor Manufacturers Record:*

Your recent editorial entitled "Suspicion and District Hinder Farm Relief," shows that you understand the farmer's point of view. Why should the farmer be other than suspicious when he has been exploited by the transportation and distributing agencies from time immemorial?

The farmer receives only one-third of the price the consumer pays for farm products. Government statistics show that the farmers of the United States receive less than 3 per cent on their investments, while the railroads are permitted to earn 5.75 per cent on a valuation inflated 33.3 per cent. The farmer furnishes 60 per cent of all the railroads haul, in and out. Notwithstanding this difference, railroad general managers and attorneys join with the big banking interests to prevent legislation intended to rehabilitate agriculture.

Why should not the Government assist the farmers in carrying a 12-months supply of farm products? We all know that if a 12-months supply of any commodity is forced on the market in three months time, it will not bring its value; yet, the banks have been pursuing this policy since the war between the States. The bankers have always said: "Let the farmer sell his stuff and pay up," disregarding the fact that the security is better when the farmer's stuff is insured, stored in a warehouse or elevator, than before the seed is in the ground. Why should the farmer be forced to sacrifice his stuff—\$9,000,000,000 produced last year, of new wealth—while the banks and other interests that exploit the farmer produced not one penny?

The big banks having on deposit hundreds of millions of dollars of the Government's money, without interest, and no specified time to return it, conspire in that room on Wall Street, overlooking the Statue of Liberty, to prevent the Government from loaning the farmer money to market his products in an orderly manner, as there is a demand for them; at a fixed rate of interest, and a specified time to return it. I have been in that conspiracy room on Wall Street, and I have also been in the room in Washington, D. C., where the paid lobbyist receives a fee to manipulate the influence brought to bear on Congressmen to do the bidding of the favored interests.

Facility of association enables these interests to combine against the isolated farmers, scattered over this great country of ours, who have neither the time nor the money to form combinations for their own interests—far less, time to exploit the other fellow, if they had any inclination to do so.

It does seem to the writer that business men should have sense enough to know that the farmer cannot buy unless he gets some profit above cost of production—to realize that the farmer must prosper, or the foundation on which all prosperity is built will disintegrate.

G. T. McELDERRY.



# IRON, STEEL AND METAL MARKET

## Seasonal Dullness Apparently at Its Full Depth in Steel

Pittsburgh, July 28—[Special.]—The volume of steel buying and the rate of steel production both appear to be stationary, indicating that summer dullness recently reached its full depth. Estimates of the rate of steel ingot production run about 56 per cent, for the last two or three weeks. This represents a somewhat larger decrease than usual either from the peak rate of earlier in the year or from the average rate during the half year.

Comparison of steel production in the United States and the total in the principal foreign countries shows that there has been a remarkable closeness in recent swings. From 1928 to 1929 the United States increased 9 per cent while the foreign countries increased 8.4 per cent. From 1928 to the first half of 1930 the United States decreased 4.2 per cent while the foreign countries decreased 2.6 per cent. The extra loss in the United States balanced the extra gain in 1929. The statistics agree with what has been said lately, that depression is by no means confined to the United States.

Fabricated structural steel lettings in June as officially reported amounted to 264,000 tons, just the average of the preceding five months. The second quarter was just a shade above the first quarter, when more commonly there is a seasonal increase. The half year was 17½ per cent under the first half of last year, but when it fully equaled the first half of 1928 and exceeded the first half of previous years it can hardly be said that there is depression in this industry. Shipments of the fabricating shops were a trifle heavier in the first half of this year than in the first half of last, showing that the work is being carried out rapidly, and contrasting with the fact that total production of steel decreased 18 per cent from the first half of last year to the first half of this year.

Automobile production makes quite a different showing. It ran rather light during the first five months of this year, then it decreased for June more than the usual seasonal amount and production in July has been extremely light. The Ford Motor Company scheduled a complete stoppage for a fortnight beginning July 14 but has since extended this an additional week.

Predictions are common although not universal that there will be a substantial increase in steel demand by the latter part of August. This would be the ordinary seasonal increase, though coming somewhat later than usual.

Then there are predictions of greater activity late in the year, these predictions being based upon an improvement in business generally.

No steel consuming line of any consequence can be picked out as at all likely to show any decrease henceforth in its steel requirements. All the decreases that could be expected have already occurred. Rail deliveries against annual purchases began to decrease May 1 and were practically all completed by July 1. The automobile and farm implement industries had their full seasonal slowing down by July 1. Freight car shops had some orders July 1 and have not booked as much since then as they have produced, but this is quite a minor point. Structural fabricating keeps up its full pace and both automobiles and farm implements are in line for seasonal increase.

Finished steel prices show no quotable changes of consequence but some lines present a slightly weaker appearance, than a week or two ago. In some quarters it is said the market is not being given much test as buying is chiefly in such small lots. According to precedent, if there were a substantial increase in demand some lines would have a final decline of say a dollar or two a ton and then would be quite firm with chances of some advance.

## Good Demand for Copper at Low Figure

New York, July 28—[Special.]—Copper has been selling freely at 11 cents per pound, the lowest since 1902 when in May a price of 10½c, refinery, was touched, or 10¾c, delivered, a figure comparable with the 11-cent price of today. Zinc is the only major metal to show pronounced strength, having advanced from 4.05c, East St. Louis, in the case of at least one sale, to 4.50c late last week, due to decision at the meeting of the international zinc producers in Ostend to revive the cartel which was abandoned at the end of last year.

Lead has been steady and featureless, featureless except for stability of the price which has held fast while other metals have been fluctuating widely. Tin continues to travel along its market runway, bounded on one end by a price of 29¼c and on the other by a quotation of 30¼c. Silver has been selling well over 34 cents per ounce.

Antimony has improved ¼c per pound in a week to 7c, duty paid, due to small arrivals from China during June.

Quicksilver is steady at the lower price of \$119 per flask of 76 pounds. Platinum prices also are unchanged.

Industrial activity in general is probably at the valley point of the year this month. In the steel industry some signs of betterment are seen, but no brisk pick up is looked for. Railroads are starting to inquire for their 1931 rails; fabricated structural steel orders continue above average; steel pipe is in big demand.

Operations of the tin plate makers have dropped 5 per cent to a general level of 70 per cent of capacity, which is a bearish development in tin, along with idleness of certain automobile makers. Production of galvanized sheets also is at a low level and brass manufacture is not as lively as the manufacture of copper products.

The zinc industry is hopeful the new cartel will go a long ways in solving their problems. Surplus stocks of zinc are the largest in history. The first step will be to put into effect a rigorous curtailment program. In previous negotiations to form the cartel Germany proved to be a stumbling block. Zinc producers of that nation agreed merely to refrain from increasing production provided other nations would definitely curtail. Germany's reasons for this apparently one-sided agreement were that her zinc properties had been decreased by the reparations settlements. Evidently these differences by now have been ironed out.

Domestic price of copper has been 11 cents per pound all last week, though the quotation was not admitted freely for a time. On Tuesday the export price was marked down to 11.30c c. i. f. European ports, lowest in the history of Copper Exporters, Inc. Export sales on that day were 3800 tons, largest in some time. Large sales are said to have been made in the domestic market at the new low price. Most of the buying was by actual consumers but for speculative reasons; in other words, the purchasing of refined copper did not represent orders on books for finished products.

The price of copper has traveled far since March, 1929, when a few sales were made at 24c per pound. The next month the metal was established at 18 cents a pound where it remained a year, to the day, dropping at the middle of April, this year, to 14c. By successive stages it has declined to 13, 12 and now 11 cents.

Unfavorable June statistics were the latest influence to send prices down further. Probably these figures were the keenest disappointment of the year to producers and others interested in

high prices, since that month was expected to be the year's turning point. It looks at this date as though July figures would still be poor in view of poor consumption this month.

The principal news pertaining to tin has been that 94 tin mining companies, controlled by Great Britain and Siam, have agreed to shut down mines for two months and in some cases three months. The tin market advanced when this news came out early in the week, but later declined, the tin trade taking the news with considerable skepticism as usual.

Though lead had been active the preceding week it continued quiet last week. Business is mostly in carload lots and for prompt shipment. Prices are still 5.15c per pound, East St. Louis, and 5.25c, New York.

The price of zinc ore was lifted to \$30 per ton, the first rise in several months. This fact, plus formation of the cartel and unwillingness of producers to sell slab zinc at losses, stiffened the price sharply. Still higher prices are expected.

### Better Feeling Manifest in Birmingham District

Birmingham, Ala., July 28—[Special.]—The market continues slow, with buying in hand-to-mouth manner and aggregates a little under the make but better feeling is indicated as to an early turn. Furnace interests urge melters to place their business; small-lot orders for pig iron really constitute the market. Rather than see much addition to surplus stock one or two furnaces will be blown out. Base price of foundry iron continues firm at \$14, No. 2 foundry in the home territory. Intimation is that this will be the low level of iron prices. Concessions are still reported on iron for delivery outside the territory, with sales not numerous. Melter in the home territory with few exceptions report new business as slipping. Cast iron pressure pipe shops are still shipping but new lettings are reported less frequent and backlogs are on the wane. These interests make up very little stock in anticipation of business, facilities being such that all business can be cared for as specified at time of booking. Machine shops and foundries are also doing more or less casting and otherwise using iron.

Better feeling has been manifest in steel since resumption of Ensley Works of the Tennessee Coal, Iron & Railroad Company, including rail mill, open hearth furnaces and an additional blast furnace. Eight hundred men were called back to employment in the Ensley Works directly while auxiliary works required additional workmen. No new railroad

business has been reported recently but specifications against contracts placed some time back are in sight. The Tennessee Company always gets its share of the business placed by Southern railroads as well as that in the Southeast and some of that from the Southwest.

Structural steel fabricating shops are giving employment to normal forces and in some instances steady operation five days a week is noted. Bridge work, industrial and other structures are calling for steel throughout the South, and Birmingham fabricators are being given an opportunity to bid. Birmingham-made tanks are moving steadily, much steel plate being used in this direction. Reinforcing concrete bars continue strong and cotton ties are being moved to cotton sections in the South and Southwest. Light weight shapes of steel are still in the slow column with much stock made up ready for shipment, viz: nails, wire and other shapes.

With the Ensley Works and open hearth furnaces there in operation again, estimate is made that steel operations, including ingot production and finishing mills, are around 70 per cent capacity. There is belief that the turn for the better is to be seen, the market being on the mend.

Coal demand holds out promise. Upwards of 6,000,000 tons have been ordered by railroads; 6,000,000 tons will be used in coke making; 6,000,000 tons will be required for domestic and local steam purposes. The Gulf coast business already amounts to 500,000 tons. Preparations have been made for a larger output during the fall and winter. The coke market is unchanged.

#### PIG IRON QUOTATIONS.

No. 2 foundry, 1.75 to 2.25 per cent silicon, f. o. b. furnaces, \$14.00; No. 1 foundry, 2.25 to 2.75 per cent silicon, \$14.50; iron of 2.75 to 3.25 per cent silicon, \$15.00; iron of 3.25 to 3.75 per cent silicon, \$15.50.

#### OLD MATERIAL.

Old steel axles .....	\$19.00 to	\$20.00
Old iron axles .....	17.00 to	18.00
Old steel rails .....	11.00 to	12.00
Heavy melting steel.....	10.75 to	12.00
No. 1 cast.....	12.00 to	13.00
Stove plate .....	10.00 to	11.00
No. 1 railroad wrought...	10.00 to	10.50
Old car wheels .....	10.00 to	11.00
Old tram-car wheels .....	11.00 to	11.50
Machine shop turnings...	7.50 to	8.50
Cast-iron borings .....	7.50 to	8.50
Cast-iron borings (chem.)...	12.00 to	13.00
Re-rolling rail .....	12.00 to	13.00

### Big Orders for Metal Windows

The Campbell Metal Window Co., operating a large plant in the southwestern industrial section of Baltimore, recently received a contract for 5300 metal windows for the new Waldorf-Astoria Hotel now being constructed in New York by the Thompson-Starrett Co. About 500 tons of strip and sheet steel will be required for these metal frames. Other large orders for metal windows received during the past year by this company include windows for the Em-

pire State Building and the New York Hospital, both located in New York City, and the Carew Tower now being erected in Cincinnati.

A portion of the Baltimore plant's output is shipped to consignees by motor trucks, particularly those jobs within a radius of about 100 miles of the city. The Federal Transfer Corp., a Baltimore transportation organization, some time ago purchased a truck expressly for the purpose of handling Campbell shipments. It has been found that this method of shipping on short hauls is economical and that it in some cases effects a saving of from 10 to 15 per cent below railroad rates. In addition to the overnight delivery advantage, the trucking arrangement saves cartage expense and eliminates the necessity of loading and unloading the merchandise into the railroad cars.

### Industrial Machinery Exports Continue to Gain

United States exports of industrial machinery for the five months ending May amounted to \$110,181,000, compared with \$104,041,000 for the corresponding period of last year, according to the Commerce Department's Industrial Machinery Division. Metal-working, construction, and well and refinery machinery were mainly responsible for this gain.

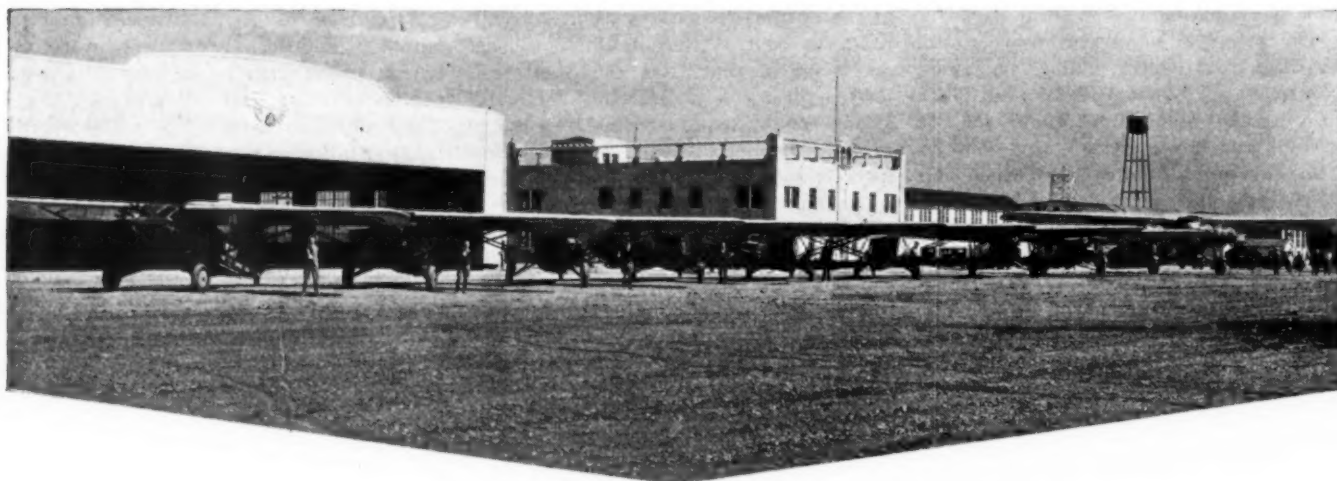
Foreign shipments of metal-working machinery made a gain of 69 per cent for May, while for the first five months this trade was 26 per cent above the corresponding period last year. Engine lathes contributed to this growth, showing an increase of \$500,000 for the month and a gain of 70 per cent for the longer period. Exports of milling machines moved from \$1,107,000 to \$1,565,000 based on the five months' comparison.

Construction machinery exports are now 26 per cent above the level for the five months of last year. As usual, excavators and power shovels, with their accessories and parts, accounted for most of this activity, exports being valued at \$5,255,000 or 26 per cent more than the 1928 period. Foreign shipments of dredging machinery were doubled, rising from \$400,200 to \$810,000. The trade in conveying machinery showed a moderate gain.

Exports of well and refinery machinery were 22 per cent ahead of the five months of last year, despite the fact that last year's shipments established a record. Most of this trade was in oil-well (other than drilling) and oil refinery machinery, which showed little change for May but moved from \$6,574,000 to \$8,251,000 for the longer period.



## AVIATION, AIRPORTS AND AIRWAYS



Hangar, Machine Shops and Administration Building at Love Field. The Fleet of Ships Is Operated by Southern Air Transport

### Love Field, Dallas, Boasts Modern Facilities

**Southern Air Transport Structures Facilitate Growth of Rapidly Expanding Service to Cities of Southwest.**

The Southern Air Transport administration building and hangar at Love Field, Dallas, Texas, go to make up one of the South's best air terminals. The buildings were designed and constructed by Airports Engineering and Construction Corp., a subsidiary of the Southern Air Transport Division of the American Airways. The hangar and machine shop are housed in a building 162 by 203 feet. The front half of the building is used as a hangar, and the rear half is divided into a dope room, machine shop, motor repair shop, woodworking department, test room, air compressor room, stock room and locker rooms. The shop equipment is all of the most modern type. The airplane and engine shops are equipped with gas heaters. The dope room is provided with an indirect heating system, hot air being forced into the room at the ceiling. All windows and doors are of metal. Floors of the hangar and shops are of reinforced concrete. The exterior of the hangar is of sheet metal and blue Falcence tile. The roof of the hangar is fireproof, consisting of a steel deck insulated against both heat and cold. A layer of mineral surface roofing, tangerine color, gives the building greater visibility.

Both the hangar and the administration building are of modified Spanish architecture. The frame is of structural steel resting on a reinforced concrete foundation. The walls of the adminis-

tration building are of masonry, stuccoed a rich cream on the outside. The exterior trim is executed in cast stone and blue Falcence tile, with a wood pagoda around the roof garden.

The administration building is a two-story structure, 72 by 83 feet. The roof is convertible into a roof garden. The first floor is divided into a waiting room, mail room, restaurant, offices, first aid room, rest rooms, baggage and ticket booths. In the waiting room space is provided for a news stand and other concessions, telephone and telegraph

booth, etc. The second floor is used for offices, pilots' club, locker room, and rest room.

The walls and ceiling of the administration building are of rough texture plaster. The floor is tile-red concrete. Office partitions on both floors are removable wood and glass arrangements allowing for any future changes necessary.

#### Engineer for Hangar at Columbia, S. C.

The new airplane hangar at Columbia, S. C., illustrated in the MANUFACTURERS RECORD of July 3, was designed, contracted for and supervised by D. H. Reed, as engineer for the Curtiss-Wright Flying Service. The article incorrectly credited a New York firm as the engineers.



#### A Product of the Spartan Aircraft Company

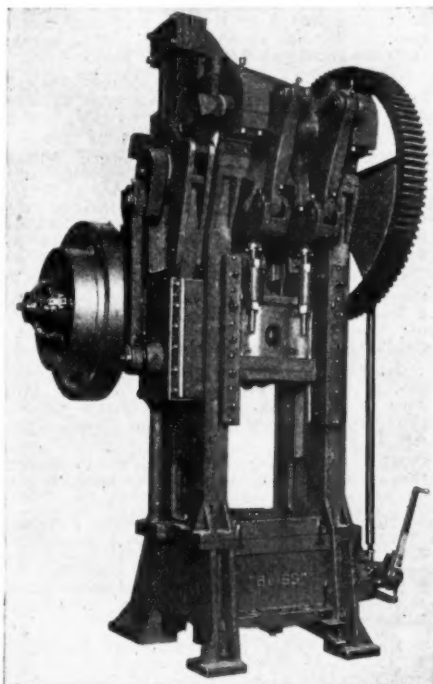
Built at Tulsa, Okla., this fleet plane known as Spartan C-3-166 is powered with a Comet 7-cylinder, 165 horsepower engine.



## NEW AND IMPROVED EQUIPMENT

### Redesigned Bliss Machine

In order to incorporate a number of new developments, the E. W. Bliss Co., Brooklyn, N. Y., has redesigned its line of single crank toggle drawing presses Nos. 1½ to 3¼-B. The blankholder drive has been strengthened by the use of a gibbed guide on the frame and the substitution of a forked arrangement for the overhung pins of the short link, while the blankholder nuts have been made more accessible by raising the driveshafts. Hand or foot control of the machine without the use of tools or any intermediate strips is supplied by a full automatic friction clutch control built into the right leg of the machine. Shafts and back brackets are more rigid, the intermediate shaft bearings being made of bronze and the drive shaft running on Timken bearings. The shaft carries a combined clutch and flywheel of new design; the flywheel runs freely

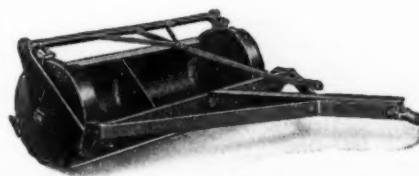


Single Crank Toggle Drawing Press

on the shaft when the press is idle, being mounted on a pair of Timken bearings and provided with a new friction clutch, having driving discs of steel with interwoven asbestos facing. When the machine is belt driven from a line shaft the belt may run on the clutch rim which is crowned for the purpose. Either this or the rim of the flywheel may be used for motor drives. The frames have been substantially stiffened and extended at the back to get nearer the back shafts, while the unit is more compact because of the shorter drive.

### Rotary Scraper of Simple Design

Designed to operate with any tractor, a new rotary scraper introduced by the J. D. Adams Company, Indianapolis, Ind., manufacturers of adjustable leaning wheel graders and other road equipment, loads automatically and fills, hauls and dumps with the tractor in continuous motion. When completely loaded, it stops digging automatically and when pulled to the dump requires only an upward pull on the rope control to dump the material and spread it. The scraper is of extra heavy construction with few working parts, and of



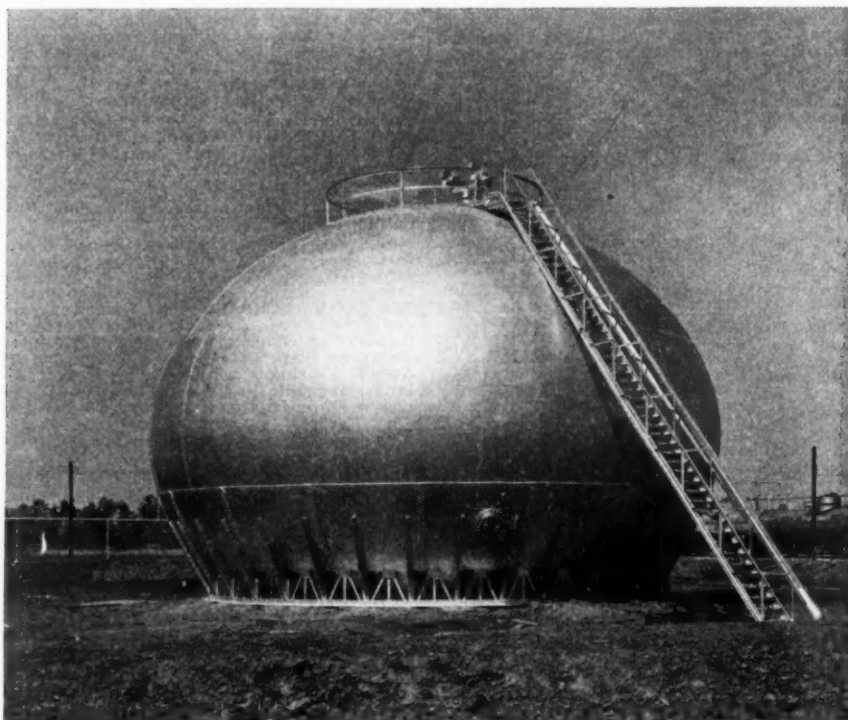
Adams Rotary Road Scraper

simple design. It is manufactured in eight different sizes, with capacities ranging from 12 to 70 cubic feet, and may be used behind tractors of 10-drawbar horse power and larger. Information regarding the scraper may be obtained from the branch offices of the company at Atlanta, Dallas or Memphis.

### Tank for Storing Liquids Under Pressure

Designed for the storage of volatile liquids under pressure, the Hortonspheroid, a new type oil tank developed by the Chicago Bridge & Iron Works, Chicago, Ill., takes its name from its unusual spheroidal shape. It was developed to provide storage, which will withstand internal pressure, in large units and at economical cost. In the spheroidal design, the bottom, shell and roof form a more or less continuous curve. A considerable amount of the bursting force is transferred to the roof and bottom and all of the metal is used for

effective stress purposes. The spheroidal shape also meets conditions encountered with various combinations of liquid pressure, an increasing gas pressure tending to make the structure more spherical, while it tends to flatten out as the liquid is increased. The only place where the tendency of the structure to change shape is sufficient to require reinforcing, it is said, is a section near the bottom, where supports are placed to take care of the overhanging liquid load. An experimental installation of the tank was tested for a working pressure of 5 pounds. The tank is illustrated and described in detail in a booklet recently issued by the company, entitled The Hortonspheroid.



Hortonspheroid for Storage of Liquids Under Pressure

# CONSTRUCTION DEPARTMENT

## and NEW ENTERPRISES

Covering the initial announcements of new undertakings with additional information about enterprises previously mentioned. The date at the end of an item indicates preliminary facts were given in a previous issue.

When writing to a new firm or corporation the name of at least one of the incorporators should be placed on the envelope to expedite its handling by the local postoffice. Mail may be delayed unless complete address is given.

Building and Construction Proposed and Contracts Awarded; Manufacturing, Mining, Power, and Land Developments; Public Works; Transportation; Communication; Financial Enterprises; New Business Opportunities Reported in the Sixteen Southern States.

The Daily Construction Bulletin of the Manufacturers Record gives each business day advance news published in this weekly review. It is invaluable to those requiring prompt information. Subscription price \$40.00 a year.

### Airports, Airplane Plants, Etc.

Ala., Birmingham—City, A. J. Hawkins, City Engr., plans receiving bids in October or November for administration building and hangar at municipal airport; E. W. Stanford, Asso. Archt., Martin Bldg. 5-29

Ga., Atlanta—Eastern Air Transport Co., C. H. Dolan, Candler Field, erect additions and make alterations to shop and service bldgs. at airport; add second story and make general interior changes; conc. footings, brick, comp. roof; \$25,000; following estimating on general contract: Gilbert Beers; Norwood Griffin, both Bona Allen Bldg.; Flagler Co., Red Rock Bldg.; Griffin Construction Co., 452 Spring St., N. W., all Atlanta; private plans; bids in. 5-8

La., Baton Rouge—East Baton Rouge Parish Police Jury let contract to A. C. Stewart, 1810 E. Boulevard, Baton Rouge, at \$50,002, for administration bldg. and hangar; administration building, 2 story, brick, providing waiting room, office, weather bureau room, pilots lounge room, ladies rest room, sleeping quarters, baths and showers; hangar, 2 story, brick, steel trusses, steel doors, with observation tower and beacon shop, machine shop, parts dept., paint, etc.; Jones, Rossle & Olschner, Archts., Maison Blanche Bldg., New Orleans, and Raymond Bldg., Baton Rouge. 7-3

La., New Orleans—New Orleans Air Transport Co., New Orleans, Rankin Flying Service, Inc., P. O. Box 4268, Portland, Ore., and Simplex Aircraft Corp., of Ohio, reported, merging and will erect 2 airplane plants to employ about 500, landing field, aviation school, etc., involving total expenditure of approx. \$750,000; William E. Hoefgen, official of local firm and of Ohio organization.

La., Shreveport—City Comms. let contract to W. W. Murray Werner, Commercial Bank Bldg., for administration building and hangar; to Emmett Cochran, 329 Olive St., at \$2318, for paving work; bids for field lighting postponed until Aug. 12; Jones, Rossle, Olschner, & Weiner, Archt., Ardis Bldg.; Airports Engineering & Construction Corp., Div. of Southern Air Transport, Inc., Fort Worth Natl. Bank Bldg., Fort Worth, Tex., Designing Archt. 7-17

Miss., Meridian—City, W. H. White, Clk. and Treas., has bids in for steel hangar and terminal bldg.; terminal, brick, frame; Frank Fort, Archt. 7-3

Mo., St. Louis—Bd. of Public Service, O. D. Tillay, Secy., let contract to Martin & Reilly, 7227 Lindell Blvd., at \$29,319.01, for constructing drains for runways and taxi-strips at municipal airport. 6-5

Okla., Norman—Sooner Airways, capital \$50,000, chartered; Chester Garrett, Roy O. Hunt.

Tex., Harlingen—City defeated \$200,000 airport bond issue. 5-29

Tex., Mineola—Mineola Airport Bd., H. O. Rogers, Chmn., establish \$50,000 municipal airport, including 4-plane hangar, with repair facilities, etc.; Henry Weisner plans establishing aviation school.

Tex., Randolph Field, Schertz—Capt. A. W. Parker, Constructing Quartermaster, having revised plans drawn for concrete aprons along hangar line; 120x250x5 ft., including drainage.

### Bridges, Culverts and Viaducts

#### Proposed Construction

Arkansas—State Highway Comsn., Little Rock, receives bids in Sept. for bridge at Deep Ford, State Highway No. 26, between Forrester and Gravelly, Scott County; lets contract in August for 8 bridges on Highway No. 10, between Booneville and Ola; C. S. Christian, State Highway Engr.

Ark., Prescott—War Dept., Washington, D. C., approved plans, State Highway Comsn., Little Rock, for bridge across Little Missouri River near Prescott.

Florida—See Roads, Streets, Paving.

Fla., New Smyrna—War Dept., Washington, D. C., approved plans, City of New Smyrna, for bridge across estuary of Indian River north of New Smyrna, under State law.

Ga., Augusta—War Dept., Washington, D. C., approved modified plans of Georgia State Bd., Atlanta, and South Carolina State Highway Dept., Columbia, for bridge across Savannah River, Augusta; modification provides increase in vertical clearance, and relocation of one pier on South Carolina side, and addition of one pier on Georgia side. 5123

Ga., Columbus—Muscooke County Comms., W. H. Barnes, Clk., receive bids Aug. 27 for Brown Ave. viaduct, south of present grade crossing; C. L. Rhodes, County Engr. 4-3

Ga., Lincolnton—State Highway Bd. of Georgia, Atlanta, receives bids Aug. 5 for bridge at Lincoln-Columbia County line, on Lincolnton-Applying road, Lincoln and Columbia Counties; 327,000 lb. struct. steel, 144,500 ft. timber untreated; B. P. McWhorter, State Highway Engr.

Ga., Thomasville—Thomas County Comms., J. E. Pittman, Chmn., and Grady County Comms., J. E. Hall, Chmn., Cairo, plan bridge over Barnett Creek.

Ga., Thomasville—City plans expending \$10,000 for bridges. See Financial News Columns.

Kentucky—State Highway Comsn., Frankfort, receives bids Sept. 10 for 11 bridges, estimated cost \$8,472,000; 8 intrastate bridges: Across North Fork of Cumberland River at Burnside; Kentucky River at Tyrone and Boonesboro; Green River at Spottsville; Cumberland River at Smithfield and Canton; Tennessee River at Eggners Ferry and Paducah; 3 bridges across Ohio River at Ashland, Maysville and Carrollton; H. D. Palmore, State Highway Engr.

La., Algiers, New Orleans—City Comsn. received low bid from Emile J. Legendre, Algiers, at \$6,204, to repair etc., Eliza St. viaduct.

Md., Lanham—State Roads Comsn., Baltimore, receives bids Aug. 7 for substructure, conc. floor, approaches, etc., for single 101-ft. span bridge over tracks of Pennsylvania R. R. at Lanham, on Defense Highway; L. H. Stewart, Sec.

Miss., Bay Springs—Jasper County Bd. of Supvrs. receives bids Aug. 4 for 5 bridges: 700-ft. bridge across Tallahala Creek, near Foulke; 140-ft., across Tallahala Creek, Beat 1; 100-ft., across Otock Creek, Montrose and Weems road; 75-ft. slough bridge across Luke Flapper Creek, Paulding and Bay Springs road; 300-ft. slough bridge across Ettahoma Creek, near Old Mill Place, west of Springer, Beat No. 4.

Miss., Fayette—Jefferson County Bd. of Supvrs. receives bids Aug. 4 for 8 bridges on Blue Hill-Pleasant Hill road, 38,914 l.b.m. creosoted lumber.

Miss., Greenwood—Leflore County Bd. of Supvrs., A. R. Bew, Clk., receives bids Aug. 4 for bridge across Fighting Bayou at Pee Dee Plantation, Beat 2; culverts; building 4 fills on Minter City-Lone Star public road, Beat 1.

Miss., Holly Springs—Marshall County Bd. of Supvrs. receives bids Aug. 5 for 3 bridges: 80-ft. pile bridge on Byhalia and Chulahoma road, Dist. No. 4; 48-ft. pile bridge across Oakchewala Creek Dist. No. 4; repair bridge.

Miss., Iuka—Tishomingo County Bd. of Supvrs., Omer J. Bullen, Clk., receives bids Aug. 4 for steel bridge across Bear Creek, on Tishomingo to Bloody Springs road.

Miss., Natchez—Adams County Bd. of Supvrs., W. E. Hale, Clk., receives bids Aug. 3 for reconstructing and 2 additions to bridge over St. Catherine Bayou on Lower Natchez-Woodville road, 44,000 lb. rein. steel; 35,000 lb. struct. steel in I-beam spans. Late noted rejected bids. 7-17

Miss., Pontotoc—Pontotoc County Bd. of Supvrs., G. A. Young, Clk., receive bids Aug. 5 for 2 bridges; on Road No. 40, southeast of Toccopola; 3-span bridge on Gwin's Creek; 9-span, on Yocona Creek.

Miss., Senatobia—Tate County Bd. of Supvrs., L. P. Purtea, Clk., receives bids Aug. 4 for 70-ft. span steel truss bridge, 12-ft. road, across Arkabutla Canal, Dist. No. 1.

Miss., Vicksburg—City, S. S. Patterson, Clk., receives bids Aug. 18 for conc. bridge on Spring St.

Missouri—State Highway Comsn., Jefferson City, and Quincy, Omaha and Kansas City R. R., J. G. Schneider, Pres., St. Joseph, reported, plan grade separation structures at 2 points in Lewis County, where railroad intersects State Highway No. 6; total cost \$40,000.

Mo., St. Louis—City, Missouri Pacific R. R. Co., E. A. Hadley, Ch. Engr., St. Louis, and Terminal R. R. Assn. of St. Louis, H. J. Pfeiffer, Ch. Engr., receive bids soon to reconstruct steel and timber bridge over Mill Creek Valley. Twenty-first, south of Clark Ave.; cost \$50,000.

Mo., St. Louis—City and St. Louis-San Francisco Ry. Co., F. G. Jonah, Ch. Engr., receive bids soon for 4-track rein. conc. steel viaduct over Southwest Ave. at Ivanhoe Ave.; L. R. Bowen, City Engr.

Oklahoma—State Highway Comsn., Oklahoma City, received low bids for 10 bridges, approaches and road: Atoka County—2 bridges on Highway No. 75, over Muddy Boggy Creek, Mackey & Hopper, Liberty National Bldg., Oklahoma City, \$52,274; 2 bridges at Frontier House and Clear Bobby Creek, Highway No. 75, George M. Brown, McAlester, \$37,683; Comanche County—bridge on Highway No. 8 at Fort Sill reservation, Roberts, Fisher & Co., Norman, \$8410; Texas County—spans over Beaver River, 6 ml. from Guymon, R. R. Tway, 237 East 15th St., Oklahoma City, \$43,492; Cotton County—1 ml. grading and 3 bridges over Deep Red, Highway No. 7, Ledford & Way, Walters, \$7940, for road; \$38,189 for



bridges; Blaine County—refloor trusses and construct approaches to bridge over North Canadian River west of Watonga, Highway No. 33, R. R. Tway, \$9830; A. R. Losh, State Highway Engr.

Okla., Muskogee—See Roads, Streets, Paving.

Okla., Tulsa—City, K. R. Teis, City Engr., advises, location for Arkansas River Bridge not determined; no work on plans has been started. 7-24

Tennessee—Dept. of Highways and Public Works, receives bids for 21 bridges. See Roads, Streets, Paving.

Tennessee—Dept. of Highways and Public Works, receive bids for 2 bridges. See Roads, Streets, Paving.

Tenn., Knoxville—City, George Dempster, Mgr., plans receiving bids about Sept. 1 for Henley St. Bridge over Tennessee River, cost about \$1,000,000. 4-24

Tenn., Knoxville—City Council, George Dempster, Mgr., engaged Leonard M. Dow, Struct. Engr., Brownlow Bldg., Knoxville, to supervise construction of Henley St. Bridge; recently noted approved plan of Marsh Engineering Co., Des Moines, Iowa, for designing bridge. 4-24

Tenn., Nashville—War Dept., Washington, informally approved application of Louisville & Nashville R. Co., W. H. Courtenay, Ch. Engr., Louisville, for approval of plans to reconstruct bridge across Cumberland River at Nashville, subject to certain conditions; cost about \$220,000. 6-26

Tex., Beaumont—City, Paul H. Millard, Mgr., considering expending \$900,000 toward improving railroad crossings. See Financial News Columns.

Tex., Coleman—City and Santa Fe Ry. System, G. W. Harris, Ch. Engr., Chicago, plan underpass at intersection of railroad and Abilene-Coleman Highway.

Tex., Dallas—Union Terminal Co., Murrell L. Buckner, V. P. and Gen. Mgr., receives bids in about 10 days for Cadiz St. underpass.

Tex., Fort Worth—Tarrant County plans receiving bids for bridge over Clear Fork on Stove Foundry road, cost about \$50,000; Damon A. Davis, County Engr.

Tex., Houston—Harris County receives bids Aug. 11 for bridge over Spring Creek on West Montgomery road, 1157-ft. span, between Harris and Montgomery Counties, cost about \$47,000; Charles R. Haile, Harris County Engr.

Virginia—State Highway Comsn. receives bids for 2 bridges. See Roads, Streets, Paving.

Virginia—See Roads, Streets, Paving.

West Virginia—State Road Comsn. received low bids for 4 bridges. See Roads, Streets, Paving.

West Virginia—State Road Comsn., receives bids for 5 bridges. See Construction News—Roads, Streets, Paving.

#### Contracts Awarded

Ark., Arkadelphia—Missouri Pacific Ry. Co., E. A. Hadley, Ch. Engr., St. Louis, reported, let contract to List & Weatherley Construction Co., 418 Railway Exchange, Kansas City, at \$150,000, for 380-ft. conc. railroad bridge across Ouachita River, Arkadelphia. 7-17

Florida—State Road Dept. let contracts for 3 bridges. See Roads, Streets, Paving.

Ky., Louisville—Louisville Bridge & Iron Co., 11th and Oldham St., has contract for 1010 tons fabricated struct. steel for grade crossing elimination for Kentucky & Indiana Terminal R. R. Co., H. R. Kurrie, Pres., Transportation Bldg., Chicago; Henry Bickel Co., 435 Garden St., Louisville, has contract for work. 7-17

Miss., Woodville—Wilkinson County Bd. of Supvs., C. A. Coon, Clk., let contract to W. R. Fairchild, Seminary, at \$27,400, for 8 bridges on 2 highways in Second Supvs. Road Dist. 6-19

Oklahoma—State Highway Comsn., let contracts for 2 bridges. See Roads, Streets, Paving.

Tennessee—Dept. of Highways and Public Works, let contracts for 6 bridges. See Roads, Streets, Paving.

Tenn., Chattanooga—Virginia Bridge & Iron Co., Roanoke, Va., has contract for 350 tons fabricated struct. steel for Nashville, Chattanooga & St. Louis Ry. bridge.

Tex., Amarillo—Santa Fe R. R. System, G. W. Harris, Ch. Engr., Chicago, let contract to Union Bridge and Construction Co., Midland Bldg., Kansas City, Mo., for bridge over Canadian River. 6-26

Tex., Lockhart—Caldwell County, M. O. Flowers, Judge, let contract to Austin Bridge & Co., Box 1094, Dallas, at \$19,674, for 609-ft. treated timber pile trestle bridge on Sec. B.

Brunder Field road, across West Fork Plum Creek; Mark Swain, Engr., Luling.

Tex., Victoria—Monarch Engineering Co. has contract for rebuilding bridge across San Antonio River at Sims Crossing on road connecting Victoria, Refugio and Goliad Counties.

Va., Bedford—Town, R. W. Catlin, Mgr., let contract to Miller Overstreet to widen, straighten and improve bridge over Norfolk & Western R. R.

W. Va., Deepwater—Virginian Ry. Co., Albert M. Traugott, Ch. Engr., Norfolk, Va., let contract to Virginia Bridge & Iron Co., Roanoke, Va., at approx. \$200,000, for steel superstructure for bridge across Kanawha River, Deepwater. 6-19

W. Va., Middlebourne—State Road Comsn., Charleston, let contract to Nelson & Copley, Madison, at \$15,825 for 20-ft. span, conc. arch bridge over Gorrell Run, Tyler County.

#### Canning and Packing Plants

Ark., Batesville—Greenbrier Canning Co. chartered; G. E. Yeatman, J. F. Maxfield.

Fla., Bradenton—Bradenton Citrus Growers erecting 40x100 ft. coloring plant north of present packing plant; 1 story, galv. iron; capacity 12 carloads; will use Hale System of coloring; cost \$10,000.

Fla., Florence Villa—Florence Citrus Growers Assn., reported, let contract to Ingalls Iron Works Co., 720 Fourth Ave., S., Birmingham, Ala., for 150 tons. struc. steel for packing plant. 7-24

Fla., Sarasota—Tru-Ripe Citrus Products Co. organized by Owen Burns, 310 Gulf Stream Ave., reported, plans \$25,000 citrus juice extracting and grapefruit canning plant.

Fla., Tampa—Florida Packing Corp., canners and distributors of Del Monte products, (California Packing Corp., 101 California St., San Francisco, Calif.), reported, let contract to Logan Bros., 207 N. Willow Ave., for canning and packing plant on E. Broadway; 200x100 ft.; cost \$50,000.

Mo., Marionville—Marionville Canning Co. chartered; A. H. Gardner, B. R. Coleman.

S. C., Dillon—Bd. of Trade, E. I. Reardon, Sec., reported, interested in location of canning plant by outside capitalists.

Tex., Brownsville—Texas Citrus Fruit Growers Exchange, F. C. Whittlesey, Field Director, having plans prepared by H. H. Ewing, Engr., for \$100,000 citrus packing plant; soon call for bids.

#### Coal Mines and Coke Ovens

Alabama—De Bardeleben Coal Corp., Milton H. Fies, Vice-Pres., Southern Ry. Bldg., Birmingham, advises regarding improvements at No. 33 coal mine, Hull, Walker County; Relocating railroad and making new opening to property, rebuilding washer, installing new tipples, tram cars, etc., construction by own forces; contracts for materials and equipment, other than lumber, not let; present output of 900 tons daily to be increased to 2000 tons; also building washer at Corona No. 12, opening new drifts at Coal Valley, equipping Sipsey and Empire mines with mechanical loaders, automatic substations and new portable air compressors; total expenditure, \$300,000; purchased, through subsidiary, Bulk Transportation Corp., Steamship Bremerton from U. S. Shipping Bd.; now being remodeled by Jahnecke Dry Docks, Inc., New Orleans; to be put in operation between Mobile, Ala., and Pensacola, Fla., and other Gulf ports, taking coal on outbound trips to points in Texas and Florida, returning with sulphur, phosphate rock and fruit. 7-17

#### Cotton Compresses and Gins

Ga., Augusta—Georgia-Carolina Warehouse & Compress Co., reported, applied to Georgia Public Service Comsn., Atlanta, for permission to issue 25,000 shares of capital stock, no par value, for purpose of purchasing Atlantic Compress and Warehouse Co.

La., Shreveport—American Compress & Warehouse Co., End of Johnson St., Props., of Junction Compress, expending \$35,000 for improvements to compress in West Shreveport; erecting warehouse and shed; install sprinkler system.

Miss., Clarksdale—Hiawatha Gin Co., reported, rebuild burned Southern gin at Harlow; expend \$25,000 for improvements; install modern machinery.

Tex., Dallas—Oso Community Gin Co., capital \$25,000, chartered; S. N. Thompson, Cotton Exchange Bldg.

Tex., Dallas—Laureles Gin Co., capital \$25,000, chartered; S. N. Thompson, Cotton Exchange Bldg.

#### Drainage, Dredging and Irrigation

Md., Baltimore—Bd. of Awards, Office of City Register, City Hall, opens bids Aug. 6 for maintenance dredging in Baltimore harbor, comprising Patapsco River and tributaries; Elmer E. Hammond, Harbor Engr.

Miss., Pascagoula—U. S. Engr. Office, Mobile, Ala., opens bids Aug. 21 for maintenance dredging involving removal of approx. 3,600,000 cu. yd. material, including overdepth from Gulfport Ship Channel and anchorage basin.

Miss., Pascagoula—U. S. Engr. Office, Mobile, Ala., opens bids Aug. 22 for maintenance dredging in Mississippi Sound Channel at Pascagoula, to depth of 17 ft. and width of 150 ft., involving removal of approx. 1,500,000 cu. yd. material, including overdepth.

Tex., Brownwood—Brown County Water Improvement Dist. No. 1, D. W. Ross, Dist. Engr., Brownwood, drilling test holes and building roads preparatory to inviting bids for \$2,500,000 city water and irrigation project; dam will require about 750,000 yd. earth and 10,000 yd. conc., fill or semi-hydraulic type construction; all material on ground except cement; cover 700 acres, 125,000 acre ft. of water at spillway level, with shore line of about 82 mi.; funds available through sale of bonds. 1-30

Tex., Eagle Pass—Phillips & Davies, Kenton, Ohio, has contract for 3 steel head gates and frames to be placed in main canal of Maverick County Water Improvement Dist. No. 1, 52 tons; Ulen Contracting Co., Gen. Contr., 120 Broadway, New York; W. L. Rockwell, Engr., Eagle Pass. 3-6

Tex., Mercedes—Owen Combe, 642 Washington St., Brownsville, and associates, reported, have permit for preliminary surveys to irrigate 150,000 acres, involving 2000-h. p. hydro-electric plant, large pumping plant, etc.; \$1,500,000; private plans.

Virginia—U. S. Engr. Office, Norfolk, has low bid from Delaware Dredging Co., 139 S. Third St., Philadelphia, Pa., at \$124,293.31, for dredging 1,425,382 cu. yd. place measurement, James River. 7-17

#### Electric Light and Power

Electric light and power work in connection with many LAND DEVELOPMENT operations involves the expenditure of large sums of money. See that classification for details.

Ark., Hampton—Consumers Utility Co., Little Rock, reported, rebuild lighting plant burned at loss of \$50,000.

Ark., Wilson—Arkansas Power & Light Co., Pine Bluff, reported, acquired Wilson Power Co.

Ark., Harrison—Arkansas Light & Power Co., Pine Bluff, reported, install \$30,000 light and power system.

D. C., Washington—Stone & Webster Engineering Corp., 40 Federal St., Boston, Mass., advises following contract let during June on Bennings Power Station, for Potomac Electric Power Co., struc. steel about 50% erected; Struc. steel, erection, R. E. Morrison, 1324 30th St., N. W., Washington; coal handling equipment, R. H. Beaumont Co., 315 Arch St., Philadelphia, Pa. 5-22

Fla., Auburndale—Stone & Webster Engr. Corp., 49 Federal St., Boston, Mass., supervising operation of Tampa Electric Co., Tampa, reported, acquired distribution system of Auburndale Power Co.

Ga., Savannah—Georgia Public Service Comsn., Atlanta, approved application of Savannah Electric Light & Power Co., Savannah, to issue \$2,000,000 bonds.

Ky., Lexington—Lexington Water Co., has under construction at cost of \$46,000 transformer substation on Richmond Rd. for supplying power from Lexington Utilities Co.'s lines to water company; construct line to present pumping station; install transformers, steel towers, switching devices, metering equipment, etc.

La., Opelousas—City, reported, plans white way system on Main St.

Miss., Jackson—Mississippi Power & Light Co., offering \$7,000,000 first mortgage gold bonds, 5% series due 1957 through W. C. Langley & Co.

Miss., West Point—City let contract to Nordberg Mfg. Co., Milwaukee, Wis., at \$63,352 for 880 h. p. Diesel oil burning engine to generate 600 kw. with switchboard and other auxiliary equipment at light and water plant. 7-17



Mo., Bagnell—Stone & Webster Engineering Corp., 49 Federal St., Boston, Mass., advises following contracts let in June on Osage Power plant, near Bagnell, for Union Electric Light & Power Co., 12th and Locust Sts., St. Louis, about 35% of conc. has been poured; cable, Aluminum Co. of America, St. Louis; two 70 ton gantry cranes, Whiting Corp., 136 Liberty St., New York; six 23,888 kv-a. generators, main units, seven motor generator exciters, two 3000 kv-a. station service generators to Westinghouse Electric & Mfg. Co., Boston, Mass. 7-17

N. C., Kinston—City, reported, let contract to Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa., for 3500 kw. turbine electric generator and switchboard; to Wheeler Mfg. Co., 165 Broadway, New York, for condensing equipment; to Marris Bros. for electric crane. 4-17

Okla., El Reno—City, J. H. Bender, City Mgr., reported, plans constructing \$450,000 power plant.

Tenn., Jackson—Burns & McDonnell Engineering Co., Consol. Engrs., Interstate Bldg., Kansas City, Mo., advises that municipal light and power plant project at Jackson has been abandoned, after material reduction in rates had been offered city by privately owned company.

Tex., Amarillo—Southwestern Public Service Co., subsidiary of American Commonwealth Power Corp., 120 Broadway, New York, reported, construct high tension power line, cost \$250,000; serve cities of northwest part of Panhandle; installing new unit of 12,500 kw. capacity at Amarillo plant; high line will be constructed from Amarillo to point near Tascosa, where it will connect with line of Texas Utilities Co., where 66,000 volt transmission line will be built; work to begin immediately under direction of Carl Cox, Gen. Supt., Southwestern Public Service Co.

Texas—Texas Electric Service Co., Electric Bldg., Fort Worth, offering \$33,780,000 first mortgage gold bonds, 5% series, due 1960, through Bonbright & Co., New York; company acquired and operates electric power and light properties in northern, central, western and southwestern Texas, previously owned by Fort Worth Power and Light Co., and former Texas Electric Service Co.; supplies electric power and light service in Fort Worth, Wichita Falls, Big Springs, Breckenridge, Electra, Sweetwater, Eastland, Ranger, Graham, Midland, Eagle Pass, Colorado and Burkburnett; company will be controlled by American Power & Light Co., 2 Rector St., New York.

Va., Mendota—Town Council votes Aug. 5 on granting 30 yr. electric light and power system franchise.

W. Va., Mannington—Monongahela West Penn Power Co., Fairmont, reported, let contract for white way system.

### Fertilizer Plants

La., Harvey—Swift & Co., Union Stock Yards, Chicago, Ill., erect 509x104 ft. steel frame building for mixing plant; work includes removal of present frame building, excavation for foundation and footing; conc. struc. steel and miscellaneous iron, etc.

### Foundry and Machine Plants

Ky., Covington—Fries & Son Steel Construction & Engineering Co., Second St. and Madison Ave., manufacturers of steel cells and other iron and steel products, have plans for \$28,000 addition to plant; 1 story, 60x130 ft.

Ky., Louisville—Stiglitz Furnace Co., 123 W. Main St., manufacturer of domestic furnaces and other heating equipment, plans rebuilding portion of plant recently burned with approx. \$50,000 loss.

La., Monroe—Ouachita Flour and Feed Co., erect storehouse in rear of present building 2524 DeSiard St.; E. K. Flournoy, Contr., N. Second St.

Okla., Oklahoma City—American Tank Co., 1520 E. Seventh St., changed name to American Tank & Equipment Corp.

Tenn., Memphis—Southern Boiler & Tank Works, Inc., T. S. Stanton, Pres., 1281 Thomas St., P. O. Box 143, plans rebuilding steel plate fabrication plant recently burned; plant, \$15,000; equipment, \$20,000.

Tex., Houston—Hughes Tool Co., 300 Hughes St., erecting \$300,000 warehouse, Polk Ave. and H. B. & T. R. R.; 2 story, basement, 150x300 ft., rein. conc., cement exterior walls, stucco finish, rein. conc. floors, rein. conc. foundation, comp. roof; Southwestern Construction Co., Gen. Contr., West Bldg.; Robert J. Cummins, Consol. Engr., Bankers Mortgage Bldg. 7-24

Tex., Houston—Hughes Tool Co., R. C. Kuldell, Gen. Mgr., 300 Hughes St., has permit for \$38,154 pattern shop and for \$141,884 shop; pattern shop, hollow tile, steel, 72x168 ft., with mezzanine floor 72x24 ft.; other shop, 2 section, 420x160 ft., and 220x20 ft., with mezzanine 200x20 ft.; already has permit for warehouse. 7-24

W. Va., Charleston—Kelly Axe & Tool Co., West Charleston, merging with American Fork & Hoe Co., Keith Bldg., Cleveland, Ohio.

### Garages and Filling Stations

Ala., Birmingham—Shell Petroleum Corp., E. O. Fields, Constr. Supt., Martin Bldg., have plans out for bids about Aug. 1 for filling station, Ave. G and 21st St.; 1 story, brick, comp. roof; private plans.

Ala., Birmingham—Louisiana Oil Corp., 3000 N. Fifth Ave., let contract to Miller Bros., 136 Myrtle Ave., for filling station, Broad St. and Cotton Ave.; 1 story, hollow tile, stucco, metal tile roof, conc. floors and drives; Miller & Martin, Archt., Title Bldg.

Ark., Harrison—Magnolia Petroleum Co., Magnolia Bldg., Dallas, Tex., drawing private plans for \$14,000 filling station; 1 story, brick, steel, 14 x 150 ft.

Ark., Harrison—Gulf Refining Co., Wallace Townsend, Local Mgr., has private plans in progress for wholesale house, filling station, warehouse, 3 storage tanks; \$12,000.

D. C., Washington—Standard Oil Co., 241 Pennsylvania Ave., N. W., has permit for service station and underground tank, Virginia St. and Ohio Ave.

Fla., Plant City—Sinclair Oil Co., 26 Broadway, New York, erect \$12,000 filling station, Reynolds and Collins St., by day labor; 1 story, 60x30 ft., brick, conc. floor, tile roof; private plans.

Fla., Jacksonville—Post Office receives bids until Aug. 26 for garage, which will be leased upon completion for 5 or 10 years; will house all government motor vehicles, include stock room, machine shop, etc.; 100x150 ft., approx. 15,000 sq. ft. floor space.

Ga., Perry—Harner Short and Charles Gray acquired site, Rail and Main St., for filling station; building on site being remodeled.

La., Haynesville—Magnolia Petroleum Co., Magnolia Bldg., Dallas, Tex., acquired site, First St.; erect bulk storage plant including 3 tanks and warehouses; also erect \$15,000 service station.

Mo., Jefferson City—Phillips Petroleum Co., Bartlesville, Okla., started excavating for service station, McCarty and Jefferson St.; old English type, 1 story, brick; include grease house containing car hoist, 2 rest rooms; Ed. Kuehn, Gen. Contr.

Mo., Jefferson City—Missouri State Highway Dept., W. Main and Harrison St., has low bid from McCarthy Bros. Construction Co., Delmar at Euclid Ave., St. Louis, Mo., at \$127,000, for headquarters garage and record storage bldg.; frame, conc., brick, tile, steel sash, metal doors, fireproof, 125 x 216 ft., 2 and 3 story, conc. floor, pitch comp. roof; equipment, \$15,000; AA. T. Campbell, Engr. in charge for Hwy. Dept. 7-10

Mo., Springfield—Shockey Service, Inc., capital \$10,000, chartered; C. L. V. Randall, 760 S. Weller St.

Mo., Springfield—Lamne-Birkenback Co., capital \$15,000, chartered; M. W. Birkenbach, 1203 Roanoke St.; garage, etc.

Mo., St. Louis—Standard Oil Co., 314 N. Jefferson Ave., let contract to J. N. McKelvey Construction Co., 1308 International Life Bldg., for \$10,000 filling station, 5527 S. Broadway; 1 story, brick, 16 x 27 ft., conc. foundation, asphalt shingle roof, conc. driveways; excavating.

Okla., Tulsa—Ryan Motor Co., capital \$200,000, chartered; F. J. Ryan, 1502 S. Frisco St.

Tex., Albany—Motor Co., capital \$15,000, chartered; W. D. McWhorter, P. W. Armstrong.

Tex., Amarillo—North Texas Machinery Co., capital \$24,000, chartered; M. M. Mayfield, 1625 Hughes St.

Tex., Austin—Knight Whippet Co., Inc., 309 W. Fifth Ave., changing name to Johns Bros. Motor Co., Inc.

Tex., Corpus Christi—Morgan Dodson Co.,

723 Mesquite St., capital \$10,000, chartered; Aubra C. Dodson; garage.

Tex., Dallas—Overton Motor Co., chartered; W. W. Overton, 4425 Rawlins St.

Tex., Dallas—Callaway's Tank Car Service Stations, capital \$25,000, chartered; M. A. Callaway, 325 W. Ninth St.

Tex., Dallas—Trinity Tire Co., capital \$10,000 chartered; A. E. Hopkinson, 1814 Peabody Ave.

Tex., Fort Worth—Transcontinental Oil & Supply Co., W. T. Waggoner Bldg., let contract to E. S. Newcome, Dan Waggoner Bldg., for 2 filling stations, Camp Bowie and Tulsa Way and W. Seventh St.; 1 story, brick, octagon shape; private plans.

Tex., Houston—Leo J. Trost Motor Co., 2406 Main St., increasing capital, \$100,000 to \$200,000.

Tex., San Antonio—Bryon Motor Co., capital \$15,000, chartered; T. J. Goad, 413 E. Courland St.

Va., Richmond—Womble Motor Co., Inc., capital \$25,000, chartered; B. P. Womble, 4222 Seminary Ave.

### Gas and Oil Enterprises

Ala., Athens—Alabama Natural Gas Corp., Watts Bldg., Birmingham, has franchise for distribution of gas; no further developments expected for some time. 7-24

Ala., D'Armandville—Ingalls Iron Works Co., 720 Fourth Ave., S., Birmingham, Ala., reported, has contract for 150 tons struc. steel for natural gas compressor station.

Ala., Selma—Alabama Utilities Co., L. J. Tyner, 1621 Cleveland Ave., Birmingham, reported, erect 2 governor gas stations Green and Franklin Sts.; brick; 12x17 ft.

Ark., Blytheville—City, reported, received proposals for installation of gas system, natural and artificial, from John A. Reed, Cedar Rapids, Iowa; Utilities Gas & Electric Co., 22 W. Monroe St., Chicago, Ill., and S. J. Felsenthal, El Dorado.

Ark., Paragould—City, J. T. Craig, Mayor, votes Sept. 21 on proposed ordinance for municipal light and power plant; may issue \$125,000 bonds.

Ga., Macon—Macon Gas Co., Charles Leed, Gen. Mgr., reported, let contract to W. A. Stillwell & Son, Grand Bldg., Macon, for 4 sub stations; cost \$60,000. 6-12

Ky., Louisville—National Consumers Oil Co., Inc., Terre Haute, Ind., reported, plans \$200,000 storage and distribution plant.

Louisiana—Moody Seagraves Corp., subsidiary of United Gas Co., both Esperson Bldg., Houston, Tex., reported, granted natural gas franchises in Franklin, Abbeville, Welsh, Lecompte, Merryville, and Broussard.

La., Bogalusa—City receives bids Aug. 14 for natural gas franchise.

La., Haynesville—See Garages and Filling Stations.

La., Kinder—Town granted Moody-Seagraves Corp., Esperson Bldg., Houston, Tex., natural gas franchise.

La., Vinton—Associated Oil Co., Inc., re-organization of Hercules Oil Co.; capital \$30,000; J. G. Sutton, Pres.

Miss., Greenwood—City granted gas franchise to Mississippi Gas & Electric Co., Jackson. 7-3

Mississippi—Southern Natural Gas Corp., Watts Bldg., Birmingham, Ala., reported, entered into contract to supply natural gas to Insull properties now using manufactured gas operating in Biloxi, Bandsboro, Mississippi City, Long Beach and Pass Christian; also signed contract with Masonite Corp., S. Fourth Ave., Laurel, for supply of natural gas; gas for these services to be furnished from 201 mile branch transmission line now being built. 6-19

Miss., Crystal Spring—E. H. Crowe Co., 108 N. Taylor St., St. Louis, Mo., reported, has gas franchise; begin construction line about Aug. 10.

Miss., Greenwood—City approved granting natural gas franchise to Mississippi Gas & Electric Co., Jackson. 7-24

Miss., Indianola—Mississippi Gas & Electric Co., subsidiary of Mississippi Power & Light Co., Jackson, reported, install gas system in city and construct line between Greenwood and Greenville.

Mo., Springfield—Springfield Gas & Electric Co., reported, let contract to W. W. Johnson, Springfield, for remodeling building on Walnut St.; cost \$30,000.

Mo., St. Louis—Phillips Petroleum Co., Bartlesville, Okla., reported, plans erecting distributing station S. E. Cor. Tenth and State Sts.; later plan placing tank farm terminal on east side of river.

Oklahoma—Ajax Pipe Line Co., Wilhoit Bldg., Springfield, Mo., reported, let following contracts in connection with oil pipe line from Glenn Springs to St. Louis, Mo.; to McIntosh Seymour Co., Auburn, N. Y., and Worthington Pump & Machinery Co., New York, for engines of Diesel type 500 h.p. each; to Prescott Pump Co., Menominee, Mich., and Worthington Pump & Machinery Co., for pumps, reciprocating type, with daily capacity of 32,500 bbls. each. 7-10

Oklahoma—Cities Service Gas Co., natural gas subsidiary of Empire Companies, Bartlesville, announced program under way to consist of addition of 24 new compressor station units of 1000 h. p. each to compressor stations in Oklahoma, Texas and Kansas; new stations at Blackwell and Drumright in Oklahoma; extension of Oklahoma City 20-in. line from Dilworth, Okla., to point south of Wichita; improvement of Dilworth-Cambridge 16-in. line for high pressure service; construction of 15 miles of 16-in. pipe line from Independence, Kans., to Joplin, Mo., are included; construct 15 compressor station units to station transporting gas through 20-in. line from Texas Panhandle to Wichita and adjacent territory; 2 units being added to stations at Pampa and Higgins, Tex.; Mooreland, Okla.; construction under way on 32 mile extension of Oklahoma City 20-in. line from Dilworth, Okla., to point few miles south of Wichita, where it will connect the Oklahoma City field with company's distribution system serving northern markets; compressor station at Blackwell involves 5 units of 1000 h. p. each and additional units may be added later; 4000 h. p. station under way at Drumright will increase capacity of 16-in. line from Seminole, Hughes and Okfuskee counties, Okla., connecting with Texas line at Ottawa; 16-in. Dilworth-Cambridge line is being revamped and improvements are being made on Riverton, Topeka and Quapaw lines; construction under way on line from Ottawa to Sedalia, Mo., 110 miles; all contracts have been awarded. 7-17

Oklahoma—National Tube Co., Frick Bldg., Pittsburgh, Pa., reported, has contract for 5,000 tons steel pipe, for 1000-mile pipe line for Great Lakes Pipe Line Co., subsidiary of Barnsdall Corp., Petroleum Bldg., Tulsa; line will extend from Barnsdall, Okla., to Des Moines, Iowa. 7-24

Okla., Oklahoma City — Hancock-Peavey Refining Co., reported, constructing \$250,000 refinery; remove portion of equipment from refinery at Russell, Kans. 7-22

South Carolina—O. L. Maddux, Hamilton, Ontario, reported, negotiating for gas franchise in cities and towns in South Carolina.

Tenn., Chattanooga—Tennessee Natural Gas Corp., Hayes Brummitt, 502 Houston St., reported, begin work in Sept. on line for piping natural gas from Sunbright fields to Chattanooga; company has franchise. 5-22

Texas—Pasotex Pipe Line Co., Womble Bldg., El Paso, reported, construct 4-in. pipe line from Porterville district to Loving county field; cost \$40,000; will connect with line running from Wink to El Paso.

Tex., Thrall—Roy Westbrook, Electric Bldg., Fort Worth, and associates, reported, begin immediate construction of refinery with daily capacity 3000 bbls.; crude oil for refinery will be supplied through Williamson Pipe Line Co.; plant will include skimming plant and reducing unit. 7-24

Va., Charlottesville—Gas Machinery Co., 1900 Euclid Ave., Cleveland, O., has contract at \$55,000 for gas generating and by-products equipment, new steam plant for municipal gas plant; buildings, 48x40 ft., 88x40 ft.; steel and brick; cost \$13,000; install water gas set, washer, cooler, exhaust, rar extractor, welded steel purifier, gas meters, boiler plant, pumps and auxiliary equipment, cost \$55,000. 7-24

Va., Richmond — Tri-State Refining Co., formed with capital of \$500,000, by Thomas B. Gay, Agt., Electric Bldg., Richmond, reported, considering operation of \$100,000 oil refinery.

West Virginia—Appalachian Gas Corp., F. R. Hurlburt, Sec., Union Trust Bldg., Charleston, and 46 Cedar St., New York, now owns more than 95% of outstanding common stock and has contracted for purchase of majority of preferred stock of West Virginia Gas Corp., Charleston, owning natural gas properties which are producing and transporting natural gas for wholesale public utility and industrial purposes; also owns 95% of outstanding capital stock of Monickel Gas Co., operated as subsidiary; Union Management & Engineering Corp., which supervises operations of companies in Appalachian Gas Corp. group, will also supervise operations of West Virginia Gas Corp.

West Virginia — Hamilton Gas Co., 420 Lexington Ave., New York, reported, acquired properties in southern West Virginia of

Harshbarger Oil & Gas Co., J. H. Harshbarger, Pres., Milton.

### Ice and Cold-Storage Plants

Fla., Miami—Miami Lime & Chemical Co., being formed by T. H. Newman, 2501 S. W. 16th Terrace, and associates, erect plant to manufacture dry ice; manufacture lime, using carbon dioxide formed for dry ice.

Ga. Atlanta—Bethlehem Steel Co., Bethlehem, Pa., has tentative contract for structural steel for Dixie Terminal Bldg. for United States Cold Storage Co., A. Epstein, Struc. Engr., 2001 W. Pershing Rd., Chicago, Ill., and Wicander & Co., 27 Madison Ave., New York, tentative contract for cork insulation; E. W. Sproul Construction Co., Gen. Contr., 2001 W. Pershing Rd., Chicago, Ill. 6-5

Tex., Temple—Home Ice Co. erect ice plant.

### Land Development

Ark., Rogers—O. L. Gregory and Bryan Snyder, develop 500 acre subdivision near city; widen road from Rogers to Diamond Springs, etc.

Fla., Bradenton—Manatee Ranches, Suite 824, 698 S. Dearborn St., Chicago, Ill., starting on development of 4000 acres south of Bradenton on Arcadia Rd.; first development will be 500 acre after which company will clear and develop property in blocks of 500 acres each until entire tract is cultivated in citrus fruits.

Fla., Orlando—Colonial Realty Co., 25 E. Central Ave., M. J. Moss, Jr., Pres., reported, negotiating with Mahlyf Bey, New York, Pres., Society of Constantinople, for colonization project on 100,000 acres in Orange and Osceola counties.

Fla., St. Petersburg—Arrow Golf Green Co., chartered; G. R. Swope, 2636 First Ave., S.

Ky., Lexington—Union Co-Operative Realty Co. developing Westgate subdivision.

La., Crowley—Frank Suddoth interested in development of cemetery.

Md., Chevy Chase—David J. oHwell and Son, Engrs., Union Trust Bldg., Washington, D. C., advise they have had charge of grading of Meadowbrook subdivision and will have charge of installation of surface improvements for this development; grading involved some 64,000 cu. yds. and was awarded to Bright-Shepherd Co., 1415 K St., N. W., Washington; work will probably be completed middle of August; sewer and water installation for building operation will be made by Washington Suburban Sanitary Dist.; few of any surface improvements in way of paving, constructing curbs and sidewalks will be undertaken this season; Monroe and Benjamin S. Warren, Jr., Connecticut Ave. and Sedgwick, N. W., Washington, are owners and developers of the property, which includes not only first section now under development, embracing some 12 acres, but includes additional tract of wooded ground lying south of adjoining Columbia Country Club, embracing some 60 acres additional. 7-24

Mo., Kansas City—Wells Bros., Dwight Bldg., reported, develop 5 acres, Seventy-third and Oak Sts.; construct street.

Mo., St. Joseph—Lake Contrary Assn., R. S. Trachsel, Pres., 1428 S. 25th St., develop park at Lake Contrary, construct drainage ditch, cost \$75,000, etc.; W. K. Seitz, Engr., Kirkpatrick Bldg.

Mo., St. Louis—Wyatt Corp., chartered; Grant Wyatt, Jr., 927 Century Bldg.

Tex., Aransas Pass—Conn & Brown Co., capital \$30,000, chartered; S. J. Conn, Conn Brown.

Tex., San Antonio—Thurman Barrett, 429 N. St. Marys St., developer of Mayfield Park, let contract for gas and electric lines in eighth unit of park, consisting of 800 acres.

Va., Roanoke—Page-Sturgill Realty Corp., capital \$50,000, chartered; Frank E. Page, Colonial Natl. Bank Bldg.

W. Va., Fayetteville—Mountain View Realty Co., capital \$20,000, incorporated; D. E. Matthews, 1563 Virginia St., Charleston; R. T. Hubbard, Fayetteville.

### Lumber Enterprises

Ala., Russellville—Richardson Lumber Co. acquired Russellville Lumber Co.

Ga., Albany—Reynolds Bros. Lumber Co. erecting \$10,000 lumber shed at plant.

Ga., Valdosta—Jackson Bros. Lumber Co. erect \$40,000 plant, consisting sawmill and planing mill.

Ky., Louisville — Henry H. Brenckmann Lumber Co., 517-519 S. Preston St., plans rebuilding burned plant; \$20,000, brick, 68 x 155 ft.

La., Bastrop—J. L. Wilbarger Lumber Co. let contract to A. J. Woehl for rebuilding lumber offices and yards at Red Rock, recently burned.

Mo., Grant City—Atlas Lumber Co. acquired I. J. Dalbey Lumber Co.

Tex., New Braunfels—Wm. Cameron & Co., Inc., Waco, Tex., acquired Geo. Pfeuffer Lumber Co.

Tex., Best—Wm. Cameron & Co., Inc., Waco, Tex., acquired Lingo Lumber Co.

### Mining

Miss., Gulfport—Loyal American Exploration Syndicate, capital \$150,000, to explore for gas, oil, sulphur and other minerals in Harrison, Jackson, Cock and other counties, formed by J. L. Taylor, L. P. Crigler and associates.

Va., Winchester—Virginia Glass Sand Corp., capital \$150,000, chartered; Walter R. Talbot.

### Miscellaneous Construction

D. C., Washington — Ch. Clk., Dept. of Commerce, opens bids July 31 for conc. retaining wall at government fuel yards, coal handling plant, Half and Eye St., S. E.

D. C., Washington — U. S. Engr. Office, Navy Bldg., opens bids Aug. 13 for furnishing and placing 24,000 tons, 40%, more or less, riprap seawall foundation along Anacostia River, Washington.

Louisiana—U. S. Engr. Office, foot of Prytania St., New Orleans, let contract to Lewis-Chambers Construction Co., Inc., Canal Bank Bldg., New Orleans, for 1,025,000 cu. yd. levee at 17.94 cents per cu. yd., for 615,000 cu. yd. and 19.1 cents per cu. yd. for 410,000 cu. yd. 7-17

La., New Orleans—Bd. of Levee Comms., Orleans Levee Dist., Chas. J. Donner, Secy., 600-606 Common St., has work under way on \$2,000,000 Lake Pontchartrain sea wall; casting yards, warehouses, tool rooms, office bldgs., etc., constructed and quantities of materials being received, actual pouring of concrete to begin about July 31 and actual work of constructing sea wall will begin about Sept. 1; Raymond Concrete Pile Co., 140 Cedar St., New York, has contract for pile construction; Orleans Dredging Co., Gen. Contr., Canal Bank Bldg. 6-12

La., New Orleans—Bd. of Comms. of Port of New Orleans, New Orleans Court Bldg., withdrew bids for reconstructing Charbonnet St. wharf, which were to be opened July 22. 7-17

La., New Orleans—Mississippi Warrior Service, 320 Magazine St., completing revised plans and will ask new bids from Lionel F. Favret, Louisiana Bldg., Geo. J. Glover Co., Inc., Whitney Bldg., and H. A. Palafelt, Balter Bldg., 3 lowest bidders, for altering 100x65-ft. shed, foot Galvez St., into office bldg. 7-17

La., New Orleans—Bd. of Comms. of Port of New Orleans, New Courthouse Bldg., has low bid from Boland Machine & Mfg. Co. Inc., 1006 Tchoupitoulas St., at \$10,850, for altering 12 cranes at public cotton warehouse.

La., New Orleans—Bd. of Comms. of Port of New Orleans, Samuel Young, Ch. Engr., 2 Canal St., let contract to Dalgarn Construction Co., Louisiana Bldg., for concrete foundation on timber for Bienville St. wharf. 6-26

La., St. Bernard—Lake Borgne Basin Levee Bd., construct protection levee at rear upper end of St. Bernard Parish.

Md., Baltimore—Pennsylvania R. R., W. E. Wood, Engr., in charge, Pennsylvania Sta., let contract to H. O. Floror, 1107 E. Hoffman St., for razing buildings on site of proposed Hoffman Street tunnel from Greenmount Ave. to Bond St. (See Railways, 3-6.)

Mississippi—U. S. Engr. Office, P. O. 667, Vicksburg, plans to issue advertisement about July 25, bids to be opened about Aug. 11 for constructing about 520,000 cu. yd. levee, Valewood Levee, Stations 6750-6795, and about 340,000 cu. yd. levee on Fitler Levee.

Miss., Greenwood—Fills—See Bridges, Culverts, Viaducts.

Miss., Vicksburg—U. S. Engr. Office, P. O. Box 667, has low bid from H. B. Blanks, Tallulah, at \$145,312, for constructing 608,000 cu. yd. levee, Catfish Point. 6-19

Mo., Kansas City—U. S. Engr. Office, Postal Telegraph Bldg., opens bids Aug. 25 for aerial survey of Missouri River covering about 900 mi. of Missouri River from mouth to Yankton, S. D., designated Item No. 1; and furnishing controlled aerial photographic mosaic, in Atlas form, of river from Kansas City (mile 397) to mouth (mile 0), designated Item No. 2.



Okla., Oklahoma City—Chicago, Rock Island & Pacific Ry. Co., W. H. Peterson, Ch. Engr., Chicago, Ill., drawing plans for subways, Walker and Robinson Ave., in connection with passenger station improvements.

S. C., Greenville—Park Commission, Chamber of Commerce and Congressman J. J. McSwain interested in establishing fish hatchery at No. 2 reservoir, Paris Mountain.

Tenn., Columbia—John Stephenson, Frier-son, construct 2 swimming pools, near Mount Pleasant, with own forces; each 75x100 ft., conc.; private plans.

Tenn., Memphis—U. S. Engr. Office, McCall Bldg., let contract to Marquette Cement Mfg. Co., Cape Girardeau, Mo., and Marquette Bldg., Chicago, Ill., for 100,000 bbl. cement, at \$199,000, for bank paving and conc. revetment work.

Tex., Houston—Fill—See Roads, Streets, Paving.

Tex., Jasper—Chamber of Commerce raising funds to purchase site for \$100,000 state fish hatchery.

Tex., Point Isabel—C. A. Mackay, Tulsa, Okla., and associates construct \$100,000 amusement pier to include swimming pool, dance pavilion, bath house, restaurant and pleasure pier.

Tex., Port Lavaca—City voted \$30,000 bonds for bay front improvements. 6-19

Tex., Houston—Houston-Harris County Ship Channel Navigation Dist., B. C. Allen, Port Director, let contract to C. W. Ennis, 3219½ Louisiana St., at \$13,700, for 2 bldgs. to house offices and laboratory of grain elevator. 6-19

Va., Newport News—Chesapeake & Ohio Ry. Co., C. W. Johns, Ch. Engr., Richmond, authorized by War Dept., Washington, to construct \$1,500,000 merchandise pier of open pile construction, James River. 1-30

West Virginia—Fills—See Roads, Streets, Paving.

W. Va., Hinton—Following have sub-contracts in connections with \$2,200,000 tunnel of Chesapeake & Ohio Ry. Co., C. W. Johns, Ch. Engr., Richmond, Va.: 6300 lin ft. steel tunnel liners, Truseon Steel Co., Youngstown, Ohio; approx. 500,000 lb. explosives, Atlas Powder Co., Wilmington, Del.; approx. 70,000 tons crushed limestone, Acme Limestone Co., Alderson, W. Va.; 35,000 tons sand, Huntington Gravel & Supply Co., 20th St. and Second Ave., Huntington; Haley, Chisholm & Morris, Gen. Contr., Charlottesville, Va. 6-26

### Miscellaneous Enterprises

Ala., Mobile—Waterman Steamship Co., First National Bank Bldg., acquired government owned Mobile Oceanic line.

Ark., Crossett—Crossett Chemical Co., W. H. Matthews, Pres., also Pres. Forest Products Chemical Co., Memphis, Tenn., started constructing first unit of plant to manufacture acetic acids and other chemical products from destructive distillation of hardwoods, to employ 150; brick, conc. construction; firm has 450,000 acres timber, Ashley County and adjoining counties in Arkansas and Louisiana; machinery for first unit to require 100 tons copper, nearly 10 tons of aluminum and 1000 tons of steel; will carbonize, 25,000 to 30,000 cords of hardwoods yearly and will produce 1500 tons acetic acids, etc., using Sulda process; other officers of new firm include Royden Dixon, Memphis, Tenn.; L. J. Arnold, V.-Pres., Crossett; Adam Treschmann, Treas.

Fla., Jacksonville—All States Construction Co., Inc., capital \$25,000, chartered; C. H. Simpson, 1349 Hollywood Ave.

Fla., Miami—Bristol Construction Co., capital \$10,000, chartered; Alen R. Clements, Congress Bldg.

Fla., Miami—Trustworthy National Laundries, Inc., chartered; Garland M. Budd, Jr., Seybold Bldg.

Fla., Miami—Leon Construction Co., Inc., chartered; F. L. Hoffman, Meyer Kiser Bldg.

Fla., Miami—See Ice and Cold Storage Plants.

Fla., Miami—T. H. Newman, of Captain Tom's Ice Co., 2501 S. W. 16th Terrace, and associates start erecting large fish plant at once; 133x40 ft., 2 story, with foundations for 6 story; install equipment for freezing fish.

Fla., Tampa—Luigi Massaro, 3914 11th Ave., acquired 270 acres, South Tampa section; develop for dairy farm.

Fla., West Palm Beach—Alfar Creamery Co., Alf R. Nielsen, Pres., Harvey Bldg., has foundation in for dairy products plant; 75x120 ft., steel, conc. and tile floors; bldg., \$20,000; equipment, \$30,000; owner builds; Breece Kitchell, Archt., 105 N. Palm Beach Ave., Palm Beach; T. G. Thorgeson, Engr., Loxahatchee. 7-24

Ky., Louisville—Kentucky Macaroni Co., Floyd St. and Byron Ave., let contract to J. F. Russell & Co., Brook and Bloom Sts., for additional story to present 2-story plant; \$35,000; Clifford F. Reichert, Archt., Starks Bldg.

Ky., Winchester—Cloverdale Dairy, Lewis Flynn, rebuild plant at once recently burned with \$10,000 loss.

La., Alexandria—Cotton Bros. Baking Co., Inc., capital \$50,000, chartered; Wm. F. Cotton, 2223 Hill Ave.

La., Bastrop—Jack's Laundry, Inc., capital \$15,000, chartered; L. H. Tyler, 213 W. Madison St.

La., Monroe—North Second Building Co., Inc., capital \$100,000, chartered; Lazo Caspari, 313 N. Second St.

La., New Orleans—Daily States Publishing Co., Camp and St. Joseph St., has plans complete and will call for bids in few days for alterations to newsprint storage warehouse; consisting of rein. conc. foundation, hollow tile walls, corrugated asbestos roof, sprinkler systems, struc. steel, sash, sheet metal work, electric wiring, plumbing, etc.; Sam Stone, Jr. & Co., Archt., Masonic Temple Bldg.

La., New Orleans—Assumption Sugar Co., Inc., capital \$80,000, chartered; Thos. Gilmore, Louisiana Bldg.

Md., Baltimore—Hinde & Dauch Paper Co., N. Haven and Fairmount Ave., Baltimore, and Sandusky, Ohio, started erecting \$200,000 paper shipping container plant, 3400 E. Biddle St.; brick, steel daylight plant, 180x620 ft., with 2-story office; Otto Randolph, Inc., Archt.-Contr., 53 W. Jackson Blvd., Chicago, Ill. 7-3

Md., Baltimore—Arundel Ice Cream Co., Inc., 1505 W. Baltimore St., erect plant, Smallwood St., between Saratoga and Mulberry St.; 75 x 150 ft.

Md., Baltimore—Chemical Pigments Co., Curtis Bay, has permit for \$25,000 plant, 6401-21 Parnell St.; 54x115 ft., and 52x108 ft., 1 story; \$25,000; owner, Archt.-Contr.

Miss., Meridian—Aberdeen Bottling Works, C. C. Clark, West Point, owner, let contract to Addison Brannin & Son, Aberdeen, for bottling plant and office, S. Meridian and Washington St., at approx. \$15,000; 1 story and mezzanine, rein. conc. foundation, built-up comp. roof, brick and stone trim, steel and iron work, sheet metal work, glazing, millwork; P. J. Krouse, Archt., M. & W. Bldg. 7-3

Mo., Kansas City—Central States Dairy Cattle Co., 233 Werby Bldg., capital \$100,000, chartered; Roy E. Barnes, 361 S. Ferree St., Kansas City.

Mo., New Haven—New Haven Nurseries, chartered; Lewis P. Schwab, Raymond S. Bagby.

Mo., St. Louis—Schwartz Dress Co., 808 Washington St., capital \$15,000, chartered; Gilbert Schwartz.

N. C., Charlotte—City, R. W. Rigsby, Mgr., open bids about Aug. 15 for timing devices for traffic signals. 7-10

N. C., Asheville—Paragon Ice Cream Co., capital \$100,000, chartered; N. M. Cranford, M. G. Edwards.

N. C., Asheville—Charles A. Webb, Sulphur Springs, acquired interest of George Stephens, in Asheville Citizen, newspaper, gaining complete ownership.

N. C., Raleigh—Castle Construction Co., capital \$100,000, chartered; W. R. Makepeace, Sanford.

N. C., Wilmington—American Molasses Co. of N. C., Inc., J. L. Duffy, V.-Pres., 15 Queen St., advises not contemplating expansion for some time. 7-24

Okla., Enid—Enid Cooperative Creamery Association, E. E. Bland, Pres., erect creamery, Adams and Walnut St.

Okla., Oklahoma City—Building Products, Inc., capital \$20,000, chartered; Harry H. Link, 1911 Classen Blvd., C. W. Crookery.

Tenn., Memphis—National Refining Co., 793 Kentucky St., taking bids on revised plans, no closing date set, for filling station, Summer Ave. and Highland St.; 1 story, 55x55, T-shaped, brick, comp. shingle roof, conc. floors, misc. steel and iron, plate glass; private plans.

Tenn., Memphis—Unjohn Chemical Co., H. S. Adams and L. M. Crockett, Representatives, Kalamazoo, Mich., has plans in progress for chemical plant, Front and Pontotoc Ave.; 2 story, brick, rein. conc., comp., built up roof, conc. and wood floors, misc. steel and iron; Hanker & Cairns, Archt., Court Square Bldg.

Tex., Amarillo—Riverside Sand, Gravel & Crushed Stone Co., capital \$50,000, chartered; William L. Slayden, 800 Tyler Ave.

Tex., Dallas—United Chemical Co., George T. Cobb, Pres., rebuild units of acid plant burned with \$100,000 loss.

Tex., Dallas—Wire Spray Painting Co., capital \$20,000, chartered; E. M. Naylour, 1102 S. Beacon St.

Tex., Galveston—E. J. Hoffman Mfg. & Development Co., E. J. Hoffman, Pres., Chamber of Commerce, has bids in for plant to manufacture automobile headlights, air pumps, airplane accessories, etc.; 200x50 ft., 1 story, sectional, brick and truss work, conc. floors, tar and gravel roof. See Want Section—Machinery and Supplies. 7-17

Tex., Houston—Shepherd Laundries Co., G. H. Shepherd, Pres., 725 Washington St., let contract to Knutson Construction Co., Union Natl. Bank Bldg., for laundry, 2400 block Louisiana St.; including plumbing, wiring, etc., at \$80,000; 1 story, 180x150 ft., boiler house 50x50 ft., rein. conc., fireproof; James Ruskin Bailey, Archt., Public Natl. Bank Bldg. 7-10

Tex., Laredo—H. P. Henderson, 522 Fifth Ave., New York, and associates have grading in progress on site for \$100,000 plant for smelting antimony to be brought from mines in Mexico; 11 bldgs., largest 35x200 ft., steel frame with galv. sides and roof, portion of brick and tile; F. G. Tobridge, Newcastle, England, supervising plans; J. B. Harper, California mining engineer, now on site, will have charge of smelter; Republican Mining & Metal Co., Ltd., British firm, financially interested.

Tex., San Marcos—Kasch Dairy Farms, Ed. Kasch, erect 2 residences, calf barn and feed barn in near future; tile, conc.

Tex., Waxahachie—Coca-Cola Bottling Co. plans rebuilding burned portion of plant recently burned.

W. Va., Glen Dale—Leadclad Wire Co., and Wheeling Metal & Mfg. Co., negotiating for merger.

W. Va., New Cumberland—Cronin China Co. and associates receive bids until Aug. 13 for 1-story plant addition, including bisque gloss kiln; \$40,000; private plans.

### Motor Bus Lines and Terminals

La., Opelousas—Gulf Transportation Lines, Inc., Barnett Cotton Bldg., capital \$100,000, formed by J. P. Barnett, John Lewis, and associates; acquired franchise of Gulf Freight Lines and several other similar franchises.

N. C., Charlotte—Horton Motor Lines, Inc., chartered; C. A. Cochran, Law Bldg.

N. C., Hickory—City Council granted 10-yr. bus franchise to City Bus Lines, owned and operated by John Gibbs, Jr.

Tenn., Bristol—Tennessee Coach Co., Al Kraemer, Pres., 428 State St., Knoxville, acquired Mountain States Transportation Co. lines, serving Bristol and other points in South and East.

Tex., Hereford—W. C. Byrd, Enid, Okla., establish bus line, Hereford to Silverton via Dimmitt and Tulla.

Va., Norfolk—Virginia Electric & Power Co., plans replacing street car service to Park View with buses.

### Railways

La., Elizabeth—Elizabeth Southern Ry., denied permission by Interstate Commerce Comsn., Washington, to construct line, Elizabeth to Kinder. 7-18-29

Md., Baltimore—See Miscellaneous Construction.

Mo., St. Louis—Southern Pacific Co., P. Shoup, Pres., San Francisco, Calif., reported, applied to Interstate Commerce Comsn., Washington, for permission to acquire St. Louis Southwestern Ry. Co., D. Upthegrove, Pres., St. Louis.

Tex., Houston—Houston & Texas Central R. R. Co., Southern Pacific Lines in Texas and Louisiana; Texas and New Orleans R. R. Co., R. W. Barnes, Ch. Engr., Houston, applied to Interstate Commerce Comsn., Washington, D. C., for permission to construct extension of 5 mi., Harris County.

Tex., Houston—Warren Central Railroad Co., capital \$50,000, chartered; Howard Kenyon, J. E. Browne, 2512 Baldwin St.; operate between Hockley and Katy, Harris County. 7-24

W. Va., Meadow Creek—Chesapeake & Ohio Ry. Co., W. N. Hartman, Asst. Signal Engr., Richmond, Va., ordered materials for mechanical interlocking plant to be installed at MD cabin, Meadow Creek involving improved Saxby & Farmer machine having 20 levers, from Union Switch & Signal Co., Swissvale, Pa., and for 10-lever style 8-8 electro-mechanical interlocking machine for installing at WS cabin, White Sulphur.



## Roads, Streets and Paving

In connection with LAND DEVELOPMENT large sums are expended for roads, streets, paving and sidewalks. Details will be found under that classification.

## Proposed Construction

Ala., Birmingham—City Comsn., plans paving Thirty-second St. and Tenth Alley, South; A. J. Hawkins, City Engr.

Ala., Birmingham—City, Eunice Hewes, Clk., plans asphaltic conc. paving, Thirty-second St., Ensley, from Ave. Q to Ave. S; estimated cost \$16,400; A. J. Hawkins, City Engr.

Ala., Jasper—Walker County Bd. of Revenue, receives bids Aug. 16 for 1 1/6 mi. grading, draining, Sipsey-Empire road, Sipsey to Mulberry Bridge; J. R. Smith, County Highway Engr.

Ala., Opelika—State Highway Comsn., Montgomery, making preliminary survey for Highway No. 1, from Opelika by Hopewell and Mt. Airy Churches to Seale.

Arkansas—State Highway Comsn., Little Rock, plans 7 1/2 mi. black top penetration treatment on Highway No. 71, from end of conc. paving above Mountainburg to point north; plans receiving bids soon for 16 mi. gravel U. S. Highway No. 64, from Clarksville to Piney Bridge; C. S. Christian, State Highway Engr.

Ark., Hot Springs—City considering paving Barton St. from Pleasant to Sorrell St.

D. C., Washington—Dist. Commrs. received low bid from Latimer & Maloney, 1630 Jonquil St. N. W., at 30 cents per cu. yd. for about 50,000 cu. yd. grading; from McGuire & Rolfe, 101 M St., N. E., for 25,000 cu. yd. sidewalks, cost about \$60,000. 7-17

Ga., Columbus—City, H. B. Crawford, Mgr., receives bids Aug. 4 for paving Talbotton road, Twelfth Ave. to junction with Warm Springs road; 20-ft. conc. pavement at eastern city limits; 3300 yd.; G. N. Mitcham, City Engr.

Ga., Cuthbert—City plans expending \$20,000 for "Baby" plan paving in residence section. See Financial News Columns.

La., Baton Rouge—Road and Bridge Committee of East Baton Rouge Police Jury receives bids Aug. 26 for repairing Mengel road and Monte Sano Ave., Third Ward.

La., Bastrop—Morehouse Parish Police Jury, receives bids Aug. 19 for 3 1/2 mi. extension Point Pleasant Highway, Road and Bridge Dist. No. 4.

La., Columbia—Village, J. H. McQuerry, Mayor, receives bids Aug. 5 to pave with 6-in. conc. Main St.

La., Natchitoches—Natchitoches Parish Police Jury receives bids Aug. 14 for 2 mi. gravel road, from Cockfield's store toward Montgomery Ferry.

La., Opelousas—St. Landry Parish Police Jury, Bd. of Suprvs. of Sixth Sub-Road Dist. of First, Fifth and Sixth Police Jury Wards, receives bid Aug. 19 for furnishing washed gravel and graveling Coleman St., Opelousas; M. L. Goudeau, Jr., Engr., Dunbar Bldg.

La., Shreveport—City Comsn., L. E. Thomas, Mayor, receives bids Aug. 12 to pave Columbia St., Line Ave. to Thornhill St.; H. E. Barnes, City Engr.

Maryland—State Roads Commission, Baltimore, receives bids Aug. 5 for 10 roads: Anne Arundel County—1.56 mi. hot or cold bit. mixtures, Camp Meade road, from Wellham Crossroads to Glen Burnie-Dorsey road, Cont. AA-97711; Baltimore County—3.8 mi. conc. shoulders, Falls road, from Bare Hills to Seminar yAve., Cont. B-155-411; 3.97 mi. conc. shoulders, North Point road, Baltimore City Line to Battle Monument, Cont. B-156-411; Cecil County—3.63 mi. conc. shoulders, Rising Sun-Fair Hill road, Sylmer road toward Blueball, Cont. CE-91-211; Dorchester County—1.8 mi. conc. shoulders, Blackwater Church Creek road, end of Cont. No. D-50 to Cont. No. D-61, Cont. B-64-14; Frederick County—1.4 mi. conc., Rocky Ridge-Detour road, from end of ont. No. F-128 to Detour, Cont. No. F-153-54; Harford County—1 mi. penetration macad. resurfacing, from Baker's Corner at Aberdeen toward Worthington's Corner, Cont. No. X-93-44; Howard County—1.5 mi. conc., on proposed relocation of Baltimore-Washington Blvd., northwest of Elkridge, Cont. HO-69-28; 2.08 mi. hot or cold bit. mixtures resurfacing, Clarksville Pike, Elloak to Snell's Bridge, Cont. HO-81-511; Washington County—1.04 mi. penetration macad. resurfacing, Sharpsburg to Burnside Bridge, Cont. W-78-64; L. H. Stewart, Sec.

Miss., Collins—State Highway Comsn., Jackson, receives bids Aug. 12 for Reddock Ferry-Mount Olive road, Beat 4, 5,750 cu. yd. excavation and borrow.

Miss., Greenwood—City, Bonner Duggan, Clk., receives bids Aug. 5 for draining, curbing, gutters, installing conc. header and paving West River Front St., Cotton to Chambers St.

Miss., Poplarville—Pearl River County Bd. of Suprvs., H. K. Rouse, Clk., receives bids Aug. 4 to gravel 2 roads: 2 1/2 mi. Picayune-Caesar road; 1 mi. road from Goodyear to Picayune-New Palestine Church road.

Miss., Starkville—Oktibbeha County Bd. of Suprvs. receives bids Aug. 5 for 1 1/4 mi. Longview Fondren Store road, 8,730 cu. yd. excavation.

Miss., Vicksburg—City, Maj. J. B. Holt, Park Supt., considering expending \$30,000 for paving 1 mi. National Military Park road from Memorial Arch, Clay St.

Mo., Clayton—St. Louis County, Walter E. Miller, Clk., received low bids totaling \$72,375 for conc. paving on 4 roads: Delmar Blvd., Hanley road to Wellesley Ave., Israel Brothers Construction Co., \$18,300; Geyer road, Missouri Pacific tracks to Big Bend Blvd., Crean & Scott Construction Co., \$24,242; Subtle St., \$30,122; Ravenswood Ave., Stratford to Oxford Ave., Edward Fehlig & Co., \$19,898; Julian Ave., Sutter to Elva Ave., W. F. Smith & Co.; Roy Jablonsky, County Engr. 7-17

Mo., Jefferson Barracks, St. Louis—Dir. U. S. Veterans' Bureau, Construction Div., L. H. Tripp, Ch., Room 764 Arlington Bldg., Washington, D. C., receives bids Aug. 26 to complete road work at U. S. Veterans' Hospital, Jefferson Barracks.

Mo., Kansas City—City, Matthew S. Murray, Dir. of Public Works, considering widening Baltimore Ave. to 60 ft. from Thirty-ninth to Archibald St.

Mo., Kansas City—City, Matthew S. Murray, Dir. of Public Works, plans widening Oak St. 56 to 70 ft., between Tenth and Eleventh St.

Mo., St. Joseph—City, Bd. of Public Works, Harry L. Graham, Clk., plans resurfacing with bit. surface drag mat treatment, on present asphaltic pavement, Twenty-eighth, Twenty-fourth St., and grading Mes-sanie St.

Mo., St. Louis—City, Bd. of Public Service, receives bids Aug. 12 to improve Ridgewood Ave., Wilcox Ave. to Chippewa St.

Mo., St. Louis—City, Bd. of Public Service, receives bids Aug. 12 to improve Al-sace Place, Cora to Marcus; Chestnut, from Eleventh to Twelfth; Eleventh, Market to Chestnut; W. W. Horner, City Engr.

Mo., University City—St. Louis—City receives bids Aug. 20 to pave Julian Ave.

N. C., Charlotte—City, R. W. Rigsby, Mgr., considering widening 25 streets, including Tryon, Cecil St.; Central, Hutchinson Ave.; Dilworth, Queens roads; Wayt Thomas, City Engr.

N. C., Greensboro—City, I. C. Brower, Mgr., receives bids Aug. 5 to grade and construct culvert on West Market St. extension, from North Buffalo Creek to corporate limits; Ray Warren, City Engr.

N. C., Fort Bragg—War Dept., Laurence L. Simpson, Capt. Q. M. Corps, Construction Quartermaster, receives bids Aug. 15 for conc. streets, combination curb and gutter, and sidewalks at Fort Bragg.

Oklahoma—See Bridges, Culverts, Viaducts.

Oklahoma—State Highway Comsn., Oklahoma City, receives bids Aug. 18 for 9 roads, totaling about 134 mi. grading, draining: Beckham and Rogers Counties—1.25 mi. Highway No. 24, Sayre, north; Cimarron County—28.5 mi. U. S. Highway No. 64, Boise City, east to county line; Comanche County—5.5 mi. State Highway No. 36, Holladay, east; Jackson County—0.5 mi. Highway No., Altus, west; Osage County—7.5 mi. U. S. Highway No. 60, Pawhuska, northeast; Seminole County—11.32 mi. State Highway No. 48, Seminole, north; Texas County—15 mi. U. S. Highway No. 64, Hooker, east; Texas County—23.3 mi. U. S. Highway No. 54, Optima, north; Texas County—23 mi. U. S. Highway No. 64, Cimarron County line, east; A. R. Losh, State Highway Engr.

Oklahoma—State Highway Comsn., Oklahoma City, receives bids Aug. 4 for oiling about 175 mi state highways in 11 counties: Rogers County—11 mi. Highway No. 16, Oologah, north; Nowata County—6.5 mi. Highway No. 16, Nowata, south; 9 mi. U. S. Highway No. 60, Nowata, west; Tulsa County—5.5 mi. State Highway No. 20, Skiatook

to Collinsville; Latimer and LeFlore Counties—33 mi. I. S. Highway No. 270, Wister to Wilburton; McCurtain County—30.4 mi. U. S. Highway No. 70, Idabel to state line; Osage County—10 mi. U. S. Highway No. 60, Arkansas River, east; Noble County—8.4 mi. U. S. Highway No. 64, Pawnee County line, west; Payne and Noble Counties—12 mi. State Highway No. 1, Stillwater, north; Kiowa County—33 mi. State Highway No. 9, Mountain View to Lone Wolf; Atoka Choctaw Counties—14 mi. U. S. Highway No. 217, Antlers, south; Choctaw County—13 mi. U. S. Highway No. 70, Boggy Bridge, west; A. R. Losh, State Highway Engr.

Okla., Bartlesville—City received low bid from Hamilton Construction Co., Bartlesville, for about 8 blocks paving.

Okla., El Reno—City, J. H. Bender, Mgr., considering paving South Roberts, Watts to Jenkins; Ellison St., Oak to Elm.

Okla., Newkirk—Kay County, Bernice Schoonover, Clk., plans expending \$50,000 toward completing paving, Blackwell-Medford Highway, from point west of Blackwell to Grant County line.

Tenn., Chattanooga—City, Roger Crox, Commr., plans widening Frazier Ave.

Tennessee—Dept. of Highways and Public Works, Nashville, receives bids Aug. 15 for 6 roads and 19 bridges: Cheatham County—5.4 mi. grading, draining highway between Ashland City and Bellsburg; also 3 bridges; Scott County—14.6 mi. paving, Highway No. 29, Morgan County line to Helenwood; Rhea County—9.8 mi. grading, draining, Highway No. 29, Spring City to Roane County line, one slab type bridge over 20-ft. span; Hickman County—7.2 mi. grading, draining, Highway No. 100, between Federal Aid Project No. 236-B, and State Aid Project No. 508-H, south of Centerville, 5 bridges over 20-ft. spans; Lewis County—5.5 mi. grading, draining, Highway No. 48, Trace Creek to Hohenwald, bridge over 20-ft. span; Franklin County—18 mi. grading, draining, Highway No. 15, Lincoln County line to Winchester, including 2 bridges; McNairy County—7 steel and timber bridges on Highway No. 57, between Hardeman County line and State Highway No. 5; T. E. McEwen, State Highway Engr.

Tennessee—Dept. of Highways and Public Works, Nashville, receives bids Aug. 8 for 5 roads and 2 bridges: Hamilton County—1.3 mi. grading, draining, State Highway No. 38, St. Elmo to Lookout Creek; Weakly-Obion Counties—10.6 mi. paving, Highway No. 5, Martin to Kentucky State Line; Montgomery County—6 mi. grading, draining, Highway No. 76, between Stewart County line and Station 321-26, toward Clarksville; Lincoln County—16 mi. grading, draining, State Highway No. 15, Fayetteville to Franklin County line; Henderson County—10.5 mi. grading, draining, Highway No. 100, Chester County line to Decatur County line; Coffee County—2 bridges and approaches on 1 mi. Highway No. 53, between Manchester and Cannon County line; T. E. McEwen, State Highway Engr.

Tenn., Knoxville—Dept. of Highway and Public Works, Nashville, receives bids Aug. 15 for 7.4 mi. State Highway No. 9, Anderson County line to Knoxville; T. E. McEwen, State Highways Engr.

Tex., Angleton—Brazoria County, Scott Gaines, County Judge, plans expending \$891,000 for conc. highways and lateral roads in Road Dist. No. 30: Pave 7.4 mi. Highway No. 58, from San Bernard to Matagorda; conc. 0.4 mi. Highway No. 36, through Sweeney and West Columbia. See Financial News Columns.

Tex., Beaumont—City, Paul H. Millard, Mgr., receives low bid from Uvalde Rock Asphalt Co., Frost National Bank Bldg., San Antonio, at about \$90,000 for paving various streets, including Avenue D, Harrison, Long, Ninth and South St.; R. C. Black, City Engr.

Tex., Dallas—Dallas County Commrs. Court, Chas. E. Gross, County Auditor, receives bids Aug. 18 to pave Commerce St. viaduct; Rollins & Clinger, Dist. Engrs.

Tex., Dallas—Dallas County Commrs. Court, Chas. E. Gross, County Auditor, receives bids Aug. 21 for grading, draining Outer Blvd. No. 4, from Fort Worth Pike to Beckley Ave.; Rollins & Clinger, Dist. Engr.

Tex., Houston—City, W. E. Monteith, Mayor, plans paving Milam, Girard and Second St. with 2 1/2-in. brick top on 6-in. conc. base; Milam St. to be 36 and 52-ft. wide; cost \$15,000; J. M. Nagle, City Engr.

Tex., Houston—City, W. E. Monteith, Mayor, considering graveling various streets; J. M. Nagle, City Engr.

Tex., Houston—City Council, W. E. Monteith, Mayor, granted permit to Hedges Co., Inc., Esperson Bldg., to pave Sul Ross Ave. with 1½-in. cold rolled rock asphalt, between Day and Garrot St.

Tex., Houston—City, W. E. Monteith, Mayor, plans paving Hill St. from Clinton Dr. to Baer, 48 ft. wide; J. M. Nagle, City Engr.

Tex., Karnes County—Karnes County, Thomas B. Smiley, County Judge, receives bids soon to grade and drain Choate Highway north of Kenedy.

Tex., Marlin—Falls County considering expending \$95,000 for roads in 2 districts: New Salem Road Dist. No. 7; Pleasant Grove-Powers Chapel Road Dist. No. 2. See Financial News Columns.

Tex., Port Arthur—City, J. W. O'Neal, Mayor, receives bids Aug. 8 for permanent street paving, cost about \$150,000; plans letting contract Aug. 12 for topping streets, cost about \$115,000; W. O. Bower, City Engr.; J. B. Converse & Co., Const. Engrs., 642 Procter St. 6-26

Tex., San Antonio—City, C. M. Chambers, Mayor, received low bid from Colglazier & Hoff, 125 Crosby St., for 1½-in. cold rock asphalt paving, North Alamo St., Appler to Broadway; I. Ewig, City Engr. 7-17

Tex., Tyler—City Comsn. plans expending about \$140,000 for paving 14 streets; work to start soon.

Virginia—State Highway Comsn., Richmond, receives bids Aug. 12 for 5 roads and 2 bridges: Southampton County—35 mi. grade, drain, Route 12, point east of Franklin to point east of Courtland, 11,997 cu. yd. excavation, bridge over 20-ft. span over Notoway Swamp, 19,445 lb. rein. steel, \$1,600 lb. struct. steel; Nansemond County—4 mi. grade, drain, Route 10, 15,100 cu. yd. excavation; Botetourt County—5 mi. grade, drain, Route 17, point north to point south of Catawba Creek, 17,970 cu. yd. excavation, bridge over 20-ft. span over Catawba Creek, 47,955 lb. rein. steel, 96,525 lb. struct. steel; Bedford County—1 mi. paving, Route 10, through City of Bedford, 14,199 sq. yd. rock asphalt or alternates, 6929 sq. yd. conc. base course, .5 mi. macad., Route 204, from intersection of Route 10 to south corporate limits of Bedford; 5480 sq. yd. macad., 7201 cu. yd. excavation; C. S. Mullen, Ch. Engr.

Virginia—State Highway Comsn., Richmond, received low bids for 5 roads and bridge: Giles County—4 mi. macad., from point north of arrows to West Virginia line, M. T. McArthur, Johnson, Tenn., \$64,532; Appomattox County—11.7 mi. soil road, from point north of Vera to point south of Vera, Nello L. Terr, Durham, N. C., \$66,423; Highland County—7.5 mi. grading, Monterey to State line, J. J. Battershill & Son, Virginia, \$115,218; Princess Anne County—10 mi. grading, draining, from county courthouse to intersection of Route 27, Brooke Construction Co., Inc., Norfolk, \$146,993; gravel; \$192,174, stone; Northumberland County—9.6 mi. grading, between Callao to Hague, Perkins & Barnes Construction Co., Inc., Blackstone, \$40,552; Stafford County—77-ft. conc. and steel bridge over Potomac River, near Fredericksburg, J. S. Bowers, Whiteville, N. C., \$9,865; C. S. Mullen, Ch. Engr. 7-17

Va., Charlottesville—City, H. A. Yancey, Mgr., plans extending Brady Ave., Tenth St. to Preston Ave.

Va., Roanoke—State Highway Dept., Richmond, making survey for extension 7 mi. Floyd road, from end of Project 620, west of Roanoke, to Airport on Bent Mountain; C. S. Mullen, Ch. Engr.

West Virginia—State Road Comsn., Charleston, received low bids for 9 roads, 4 bridges, sewer fills: Cabell County—13 mi. conc. Barbourville-Culloden road, W. A. Wilson & Sons, St. Marys, \$379,956; Greenbrier County—7 mi. grading, draining, modified bit. macad., Wilsons-Lewisburg road, Echols Brothers, Alderson, \$51,438; Hardy County—1.2 mi. grading, cement paving, Moorefield-Oldfields road, M. F. McCabe Co., Salisbury, Pa., \$68,260; Jefferson County—2.7 mi. widening and retreat, Charles Town-Dalley bridge road, Murphy Construction Co., Morgantown, \$35,804; 1.7 mi. widening conc. pavement, Harpers Ferry-Bolivar road, W. A. Wilson & Sons, \$26,840; Putnam County—3 mi. grading, draining, Red House-Paradise road, Pinnell & Frost, Ripley, \$52,121; Wetzel County—8 mi. gravel surface, Wileyville-Sugar Run road, Bartlett Construction Co., Clarksburg, \$55,946; Wayne County—6 mi. Garrett Creek culvert and fill, Hope Construction Co., Louisa, Ky., \$34,246; Grant County—Maysville Bridge, conc. slab and three 26-ft. spans, W. B. Courtney & Co., Salem, \$6736; Ritchie County—Den Run County—storm sewer at Weirton3ruBldg II

Bridge, conc. arch 60-ft. span, Copley & Cooper, Harrisville, \$18,686; Hancock County—storm sewer at Weirton, Weirton Construction Co., \$9369; Logan County—construction special rock fill on Davin-Wyoming County line road, Hunt-Forbes Construction Co., First Huntington Natl. Bank Bldg., Huntington, \$10,650; C. P. Fortney, Chmn.

West Virginia—State Road Comsn., Charleston, receives bids Aug. 26 for 10 roads, 5 bridges, estimated cost \$1,350,000: Marshall County—16 mi. conc., State Route No. 2, Wetzel County line to Round Bottom Hill; Tyler County—8 mi. grading, conc., Route No. 2, Sistersville to Pleasants County line; Wood and Pleasants County—3.5 mi. grading, draining, Route No. 2, Parkersburg to St. Marys; Wetzel County—2 mi. grading, draining, Route No. 2, New Martinsville to Proctor; 3.6 mi. grading, draining, U. S. Highway No. 250, Hundred to Cottonwood; 3 mi. retreat, Hwy No. 250, Littleton to Hundred; Roane County—5.6 mi. grading, draining, State Route No. 5, Ripley to Spencer; Monroe County—9 mi. grading, draining, Route 85, Union to Gap Mills; Fayette and Raleigh Counties—7 mi. grading, draining, U. S. Highway 19-21, Mt. Hope to Skelton; Pocahontas County—4 mi. bit. paving, State Route No. 24, Stony Creek Bridge and approach and fill; Summers County—Sandstone Bridge, No. 1198, conc. substructure, steel superstructure; Ritchie County—Beatrice Bridge No. 1219, stone masonry substructure, steel superstructure; Greenbrier County—Howard Creek Bridge No. 1225, conc. substructure, steel superstructure; Howard Creek Bridge No. 1227, conc. substructure, steel superstructure; Howard Creek Bridge No. 1228, conc. substructure, I-beam superstructure; Jackson and Kanawha Counties—130,000 ft. guard rail, U. S. Highway No. 21, Parkersburg to Charleston, in Wood, Wirt, Jackson and Kanawha Counties; C. P. Fortney, Chmn.

W. Va., Clarksburg—City, Col. R. L. Osborn, Mgr., plans widening Milford St.

W. Va., Charleston—Kanawha County Court received low bids for 13 roads: 1 mi. grading, draining, Davison Run road, F. M. Ashcraft; Clay Dist.—2,300 ft. stone base, Binghamon Creek road, Charles Sargent; ½ mi. grading, draining, stone base, Thomas Fork, A. Pettit, \$5,178; Eagle Dist.—1 mi. stone base, Binghamon Creek road, Mason & Bartlett, \$6,948; 1 mi. grading, draining, stone base, Gnaty Creek road, J. M. Randish, \$6,966; 2 mi. stone base between Lost Creek and McWhorter, J. M. Randish, \$15,381; 2 mi. conc., Lost Creek-McWhorter road, W. A. Wilson & Son, \$40,090; Sadis Dist.—½ mi. stone base, Isaac's Creek road, Charles Sargent; Sadis Dist.—½ mi. stone base, Little Tenmile Creek road, F. M. Ashcraft; 1 mi. stone base, Philippi Pike, Jones Construction Co., \$7,043; Tenmile Dist.—1 mi. stone base, Hall's Run road, R. V. Thompson, \$8,068; 1 mi. bit. macad., Glen Falls road, Paul S. Hornor Co., \$6,773; Elliott School road, retreat surfacing with limestone tar, Paul S. Hornor Co., \$8,828. 6-26

#### Contracts Awarded

Alabama—State Bd. of Administration, Montgomery, let contracts for following materials for State Highway Dept., to surface treat about 14 mi. road, from Chehaw, via Leachavooka and Notasulga, to Auburn: To American Tar Products Co., Woodward St., Birmingham, and Barrett Co., Fairfield, for 95,000 gal. tar primer material; Mexican Petroleum Corp., Rhodes-Haverty Bldg., Atlanta, Ga., for asphaltic oil; Roquemore Gravel Co., Montgomery, for crushed gravel.

Ark., Booneville—City Commrs. let contracts to Dick & Co., Inc., Oklahoma City, at about \$80,685, for paving principal streets, including Main St. and Broadway. 7-24

Ark., Little Rock—City let contract to Connelly Paving Co., Home Insurance Bldg., to pave with asphalt on 5-in. conc. base Marshall, Eleventh St. and Schiller Ave.; 30 and 36 in. wide, with 4-ft. gutters; W. Terry Field, Dist. Engr.

Florida—State Road Dept., Tallahassee, let contract for 6 roads and 3 bridges: Project 62-A, Road No. 24, L. B. McLeod Construction Co., 416 Tappa St., Tampa, \$95,409; Project 62-D, Road No. 24, L. B. McLeod Construction Co., \$279,154; Hendry County—Project 806-A, Road No. 25, E. F. Powers Construction Co., Harvey Bldg., West Palm Beach, \$181,737; Jefferson County—Project 708, Road 11, Duval Engineering & Construction Co., Dyal Upchurch Bldg., Jacksonville, \$118,483; Nassau and Duval Counties—Project 57, Road 3, R. C. Huffman Construction Co., The Ingraham Bldg., Miami, \$158,027; Sarasota County—Project 66, Road 5, Nyakka River Bridge, R. C. Huffman Construction Co., \$116,625; Collier County—Gordon River Bridge on Road No. 27, Central Station Equipment Co., Seybold Bldg., Miami.

\$113,938; Union and Bradford Counties—New River Bridge, Florida Bridge & Construction Co., 49 Lorna Doone Blvd., Orlando, \$72,611; Bay County—Road No. 20, Marianna Lime Products Co., \$298,000; B. M. Duncan, State Highway Engr.

Ga., Decatur—City, J. S. Looney, Mgr., let contract to Sam E. Finley, 212 North Ave., Atlanta, at \$30,118, for 28,000 sq. yd. asphaltic resurfacing, College Ave.

Ga., Dalton—City Council let contract to R. P. Scott, of Brown Contracting Co., 2117 Laura St., Chattanooga, Tenn., to pave South Spencer St. with penetration asphalt, 27-ft. wide, including curb and gutter.

Ky., Louisville—City, Arthur A. Will, Dir. of Public Works, let contracts, totaling \$24,735, for paving various alleys: K. A. Barker, Floyd and Lee St.; Woodruff & Co., 1050 Bagget Ave.; H. C. Showalter, 3125 Teal Ave.; Andrews-Collins Asphalt Co., 1350 S. Thirteenth St.; C. W. McFarland, 1220 River road; E. Brewer, 1233 W. Jefferson St.; Geo. M. Eady Co., 340 Byron St.; J. U. Schickel & Bros., 1300 W. Oak St.; Henry Bickel Co., Inc., 435 Garden St.; F. G. Breslin, Thirty-second and Market Sts. 7-10

La., Columbia—Caldwell Parish Police Jury, R. R. Redditt, Sec., let contract to J. W. McKeithen, Grayson, La., at \$32,806, for 2 roads, 7½ mi. Columbia-Copenhagen; 3½ mi. Columbia-Hough road. 6-26

La., Monroe—City Comsn., Arnold Bernstein, Mayor, let contract to Monroe Construction Co., Wood St., West Monroe, for sheet asphalt paving, L. Erin St. and Park Ave.; W. I. Neely, City Engr. 7-17

Miss., West Point—City, T. B. Miller, Clk., let contracts totaling \$47,358, for 6078 lin. ft. curb, gutter and asphalt paving on 4 streets and avenues: Curb and gutter to Anderson-Brandon & Son, Aberdeen; gravel and sand to Memphis Sand & Gravel Co., Memphis, Tenn.; rock asphalt to Oakhurst Asphalt Co., Clarksdale, Miss.

Mo., St. Louis—City, Bd. of Public Service, let contracts totaling \$27,964, for improving 8 alleys: Ansbro & Maguire, 706 Chestnut St.; Alfred Lewald, Inc., 6025 West Cabanne St.; Kesi-Loneragan Co., 4829 Easton Ave.; Skrainka Construction Co., Security Bldg.; Fred Weber, Jr., 4034 Bates St.

N. C., Concord—Bd. of Aldermen, let contract to Bituminous Earth Road Corp., Professional Bldg., Raleigh, to treat surface and flush coat various streets.

Oklahoma—State Highway Comsn., Oklahoma City, let contracts for 12 roads and 2 bridges, totaling about \$1,500,000: Muskogee County—7.344 mi. conc., Ellis & Lewis, Muskogee, \$95,969; 2.82 mi. conc., Ellis & Lewis, \$36,508; 3.345 mi. conc., Ellis & Lewis, \$56,638, bridges to Gravelle & Hamblin, Barnes Bldg., Muskogee, \$11,356; 3.855 mi. conc., Ellis & Lewis, \$45,970; McClain County—12.181 mi. conc., Ward & Beekman, 1801 E. Ninth St., Oklahoma City, \$172,033; Creek County—8.35 mi. conc., Roy Tanner Paving Co., \$122,949; Pottawatomie County—5.657 mi. conc., Brooks-Dahlgren, Insurance Bldg., Oklahoma City, \$91,128; Jefferson County—9.128 mi. conc., J. P. Foty, Burt Bldg., Dallas, Tex., \$138,384; Payne and Creek Counties—7.939 mi. conc., Park & Co., Oklahoma City, \$111,460; Seminole County—2.212 mi. conc., Ward & Beekman, \$28,356; Carter County—1.949 mi. conc., Ward & Beekman, \$76,142; McCurtain County—7.059 mi. hot asphalt, Ward & Beekman, \$78,750; A. R. Losh, State Highway Engr.

Tennessee—Dept. of Highways and Public Works, Nashville, let contracts for 7 roads and 6 bridges: Williamson County—11.233 mi., Highway No. 100, between Hickman County line and Davidson County line, Zeigler Construction Co., American Trust Bldg., Nashville, \$304,576; Marion County—paving approach to bridge over Battle Creek, near Kimball; approaches to bridge at Jasper, on 1.072 mi. State Highway No. 27; paving 10.440 mi. Highway No. 2, between Dove and State Highway No. 27, Carter Gamble Co., Chattanooga, \$235,876; Madison County—8.278 mi. State Highway No. 20, between Highway No. 1 and Henderson County line, Sullivan, Long & Haggerty, Bessemer, Ala., \$197,615; Sequatchie County—6.737 mi. grading, draining, Highway No. 113, Hamilton County line to Anderson's Gap, Dicus Brothers, Waynesville, N. C., \$41,028; Macon County—3.833 mi. grading, draining, Highway No. 51, Meadowville to Lafayette, Lebanon Bridge Co., Springfield, Tenn., \$63,957; Grainger County—conc. bridge over Briar Fork Creek, near Tate Springs on .008 mi. State Highway No. 1, Young & Sons, Rogersville, Tenn.; Fayette County—5 timber bridges on .047 mi. Highway No. 76, Moscow to Somerville, Prentice, Little Rock, \$44,932; T. E. McEwen, State Highway Engr. 7-17



Tenn., Benton—Dept. of Highways and Public Works, Nashville, let contract to Sutton Bros., Stahlman Bldg., Nashville, at \$182,104 for 7.1 mi. grading, draining, Highway No. 74, Polk County, between Tennessee Electric Power Co. Plant No. 2 and Rock Creek. 7-3

Tenn., Chattanooga — Hamilton County Highway Comsn., T. S. Wilcox, Chmn., let contract to Brown Contracting Co., 2117 Lauri St., at \$39,035, for rebuilding 7 mi. Hickory Valley road from Lee Highway to Oak Hill road. 7-3

Tex., Amherst—City, M. L. Payne, Sec., let contract to Panhandle Construction Co., Lubbock, for paving Main St. with vertical fibre brick on conc. base; estimated cost \$29,000. 7-24

Tex., McLean—Asplund Construction Co., Enid, Okla., has contract at \$29,454, for 10,500 yd. 2½-in. brick paving. 7-24

Tex., Livingston—City Council let contract to McElwath Co., Corsicana, for conc. paving, asphalt topping on 30 blocks of streets. 7-24

Tex., Perryton—L. H. Lacy Co., 2632 Swiss St., Dallas, has contract at \$189,000 for brick on caliche paving. 7-10

Tex., Spearman—City, J. W. Ratekin, Sec.-Mgr., let contract to Lacy Paving Co., Burt Bldg., Dallas, for 12 blocks paving in residential section. 7-24

Tex., Victoria—City, S. S. Sitterele, Mayor let contract to Brown & Root, Inc., 4300 Calhoun St., Houston, to pave East Rio Grande St., North Main St., to connection with Highway No. 12. 7-10

## Sewer Construction

**Sewer construction in LAND DEVELOPMENT projects involves the expenditure of large sums of money. Under that classification details of these improvements are reported**

Ala., Mobile—See Water Works.

Ala., Montgomery—J. B. McCrary Co., Citizens & Southern Bank Bldg., Atlanta, Ga., reported, has contract for Southern outfall sewer. 6-19

Fla., Orlando—Murphy Pryor Construction Co., Exchange Bldg., has contract for 18-in. drainage pipe from Lake Davis to Greenwood Ave. 7-10

Ga., Vienna—See Water Works.

Miss., Greenville—J. B. McCrary Co., Bona Allen Bldg., Atlanta, Ga., reported, has contract at \$53,980 for sewerage pumping station and sanitary sewer mains and laterals. 7-10

Mo., Mexico—City, reported, plans sewage disposal plant; Black & Veatch, Consit. Engrs., Mutual Bldg., Kansas City. 7-3

S. C., Greenville—W. A. Briggs, Capers Bldg., Greenville, reported, has contract at \$22,000 for sewers. 7-3

Tex., Bryan—Dallas Construction Co., 3106 Commerce St., Dallas, has contract for improvements to sewage disposal plant. 7-3

Tex., Dimmitt—Ed Manning Construction Co., Lockney, reported, has contract for \$30,000 sewerage system, including disposal plant. 7-3

Tex., Goose Creek—City authorized N. B. Moses, City Engr., to prepare plans for sewerage plant. 7-3

Tex., Houston—City, reported, build sanitary sewer along road between Shepherd and Kirby Drive. 7-3

Tex., Houston—Perkins Dryer & Engineering Co., 208 W. Washington Blvd., Chicago, Ill., has contract at \$19,700 for supplying and installing rotary dryer in North Side sewage disposal plant; C. K. Horton Co., 2202 Clay St., has contract at \$4133, for storm sewers along Greenbriar Drive, from University Ave. to Shakespeare Rd., and on Shakespeare Rd. from Greenbriar Drive to Montclair Drive; C. D. Yakeley, has contract for sanitary sewer at Buffalo Drive, Buffalo Bayou and Waugh Drive; will construct \$12,000 storm sewer Dunlany from West Dallas to Welch. 7-3

Tex., Port Arthur—City opens bids Aug. 26 for drainage pump station to be constructed at Del Mar and Lakeview and for doubling present capacity of central pump station at Nineteenth St. and Stillwell; cost \$300,000. 7-3

Tex., Wexlar—City plans voting on sewer bonds. 7-3

W. Va., Paden—City votes Aug. 11 on \$35,000 bonds. 7-3

West Virginia—See Roads, Streets, Paving.

## Telephone Systems

Fla., Tampa—Station WDAE, Tampa Publishing Co., Forest Hills County Club, applied to Federal Radio Comsn., Washington, for permission to install new transmitter and studio equipment. 7-3

Ga., Lavonia—American Telephone & Telegraph Co., Hurt Bldg., Atlanta, have plans complete about Aug. 12 for exchange; 1 story, basement, 90x50 ft., rein. conc., solid brick walls, stone trim, built-up roof; Richard W. Alger, Archt., Candler Bldg., Atlanta. 7-3

Ga., Winder—American Telephone & Telegraph Co., Hurt Bldg., Atlanta, have plans complete about Aug. 12 for exchange; 1 story, basement, 90x50 ft., rein. conc., solid brick walls, stone trim, built-up roof; Richard W. Alger, Archt., Candler Bldg., Atlanta. 7-3

La., Mansfield—Southern Bell Telephone & Telegraph Co., Hurt Bldg., Atlanta, Ga., let contract to C. M. Corbin, Mansfield, for exchange, Gibbs St.; 60x40 ft., brick veneer. 7-3

Miss., West Point—Southern Bell Telephone & Telegraph Co., Hurt Bldg., Atlanta, Ga., soon start erecting \$50,000 building; 3 story, 40x70 ft., fireproof, rein. conc., brick. 7-3

Mo., Kansas City — Southwestern Bell Telephone Co., E. T. Manhood, has plans in progress for Benton-Chestnut Exchange; 2 story, basement, 137 x 78 ft., fireproof, brick, steel, rein. conc., conc. foundation, comp. roof, steel sash; I. R. Timlin, Archt., Telephone Bldg., St. Louis. 7-3

Mo., St. Louis—Station WEW, St. Louis University, 221 N. Grand Blvd., applied to Federal Radio Comsn., Washington, for permission to make changes in equipment. 7-3

S. C., Spartanburg—Station WSPA, Voice of South Carolina, Virgil V. Evans, Montgomery Bldg., applied to Federal Radio Comsn., Washington, for permission to install 1-kw. transmitter, change frequency, 14200 kc. to 5900 kc., and increase power. 7-3

Tex., Hearne—Southwestern Bell Telephone Co., B. D. Hull, Ch. Engr., Telephone Bldg., Dallas, let contract to Eckert-Burton Construction Co., Burt Bldg., Dallas, for central office bldg.; 1 story, brick, struc. clay tile, rein. conc., stone, metal lath and plaster. 7-3

Tex., Sinton — Southwestern Bell Telephone Co., B. D. Hull, Engr., Dallas, let contract to Wood Sherman Construction Co., Furman Bldg., Corpus Christi, for central office bldg.; Colonial type, face brick; to be completed in about 40 days. 7-3

Va., Lynchburg—Station WLVA, Lynchburg Broadcasting Corp., Page St., between Morgan and Mt. View St., applied to Federal Radio Comsn., Washington, for permission to install new equipment and increase power. 7-3

## Textile Mills

Ga., Atlanta—Exposition Cotton Mills, reported, has plans by Robert & Co., Engrs., Bona-Alton Bldg., for remodeling and improvements to several buildings at 794 Marietta Rd., N. W.; brick walls; tar and gravel roof; cost \$65,000. 7-3

Ga., Macon—T. A. Shaw & Co., 412 S. Market St., Chicago, Ill., acquired and will operate Adams-Swirls Cotton Mill, Bellevue Road; no improvements contemplated at this time; will be operated under same name. 7-24

N. C., Hickory—Hollar Hosiery Mills, W. L. Hollar, Mgr., reported, let contract to J. R. Killian, for erection of mill buildings, Fourth St. and Highland Ave.; 142x63 ft.; cost \$20,000; install sprinkling system. 7-3

N. C., Granite Falls—Falls Mfg. Co. and Southern Mfg. Co., reported, consolidated; manufacture yarns; G. H. Geltner, Pres., Hickory. 7-3

Tenn., Rockwood—Cumberland Silk Mills, organized by Harry J. Mandell and B. J. Lamb, reported, soon begin construction of \$10,000 plant for manufacture real silk cloth, using thread imported from Japan; local subscription \$10,000. 7-3

## Water Works

**Details of water works improvements in connection with the many LAND DEVELOPMENT operations will be found under that classification**

Ala., Mobile—City considering bond issue for water and sewers. See Financial News Columns. 7-17

Ark., Nashville—City, reported, let contract to Southwestern Gas & Electric Co., Shreveport, La., to dam Mine Creek, north

of city to form lake for water supply; gas company will install purifying plant with pumps, etc. 7-3

Ga., Vienna—City receives bids Aug. 12 for 13,000 ft. of sewer mains and 6000 ft. of water mains; W. M. Crook, Engr., 534 Washington Ave., Macon. 7-17

La., Shreveport—H. A. Forrest, Catina St., New Orleans, reported, has contract at \$11,000 for reinforcing water mains in Fairfield Heights and Glen Iris subdivision. 7-17

Md., Chestertown—Chestertown Water Dept., plans boring 65 ft. well, erect storage tank. 7-17

Miss., Hattiesburg—A. H. Guion & Co., 256 W. Main St., Gastonia, N. C., reported, has contract for construction of \$200,000 unit for water works plant contract includes main filter plant, pumping station, aerators and low level pumping station; Smith-Pew Construction Co., 435 Irwin St., N. E., Atlanta, Ga., has contract at \$76,000 for reservoir; Volz Construction Co., Baltimore Bldg., Memphis, Tenn., at \$146,000 for pipe line. 7-24

Miss., Lula—City, reported, plans issuing bonds for water works extension; Ben Collier, Engr. 7-24

Okla., Hooker—Sherman Machine & Iron Works, 26 E. Main St., Oklahoma City, has contract at \$47,000 for extensions to water works system; install centrifugal pumps and motors, air compressors and motor, contract for equipment not let; Webster L. Benham, Engr., Perrine Bldg., Oklahoma City. 7-24

Okla., Oklahoma City — City, Charles E. Bretz, Water Supt., construct water supply project on Wolf Creek near Woodward; 8 mile long, 3 mile wide; capacity 200,000 acre ft. 7-24

Tenn., Johnson City—City, J. Allen Artz, Recorder, advises city has postponed indefinitely date of receiving bids on 1,000,000 gal. water tank, lately advertised for July 31. 7-17

Tex., Anna—Town votes Aug. 16 on \$35,000 water works bonds. 7-17

Tex., Beaumont—McWane Cast Iron Pipe Co., 1201 Vanderbilt Road, N., Birmingham, Ala., reported, has contract for 25,000 ft. of 2-in. pipe; American Cast Iron Pipe Co., 2930 N. 16th St., Birmingham, Ala., for 18,000 ft. of 12-in. pipe enlarging water mains in southern section; E. L. Kilson Hardware Co., 1001 Pearl St., for Ludlow valves; Mabrey-Green Foundry & Machine Co., 460 S. Fourth St., for fittings. 7-10

Tex., Texline—West Texas Utilities Co., Abilene, reported, acquired light and water plant; will improve, install additional equipment. 6-26

Va., Bluefield—City plans \$40,000 bonds for installing filter plant. 7-10

## Woodworking Plants

Ala., Navco—Navco Hardware Co. changing name to Ocyan Plywood Co.; incorporators include E. V. Knight, New Albany, Ind.; James M. House, Navco, and associates. 7-10

Ark., Cotton Plant—Southwestern Veneer Co., J. W. Welsh, Pres., has site cleared for plant addition to manufacture hardwood veneer, panels and lumber; 125x150 ft., frame, sheet iron, conc. floor, sheet iron roof; buildings, \$10,000; equipment, \$20,000. 7-10

Ga., Valdosta—Consumers Veneer Co. formed by H. H. Rhymes, Jr., and J. M. Clark, acquired site, purchased machinery and has plans complete for single-ply veneer plant to employ over 100, using native hardwoods. 7-10

Miss., Laurel—Charles P. Limbert Co., Holland, Mich., let contract to Arch Construction Co. of Louisiana, 2126 Poland St., New Orleans, La., for all materials for \$200,000 furniture plant; L. A. Gilly, N. Fifth Ave., Laurel, in charge of construction; Ed. Breeback, Archt., Holland, Mich. See Want Section—Machinery and Supplies. 6-26

N. C., Thomasville—Thomasville Chair Co. erect packing house; 3 story, 80x300 ft., brick, conc. floors, fireproof throughout. 7-10

Tenn., Memphis — Gause-Beard Plywood Corp., 181 Malory St., Memphis; New Albany Veneering Co., New Albany, Ind.; United Veneer Co. and Breece Mfg. Co., both Portsmouth, Ohio, merging into United Plywood Corp.; Col. E. V. Knight to be Chmn. Bd. and Treas.; John T. Breece, Pres.; E. C. Gause, R. L. Story and Ben M. Lidov, V. Pres.; John A. Gadiant, Secy. and Asst. Treas.; subsidiary corporation known as United Plywood Sales Co., formed with James E. Breece, Sales Mgr.; general offices of new companies to be at New Albany, with branch at Chicago, Ill. 7-10



## FIRE DAMAGE

Ala., Gadsden—Oakleigh, summer resort in Calhoun County.

Ark., Collegeville—Main building at State Girls' Industrial School, Mrs. E. S. Jones, Supt.; loss \$50,000.

Ark., Eureka Springs—J. A. Monigan's apartment and building housing plumbing shop; loss \$30,000.

Ark., Fort Smith—Mrs. M. H. Butler's residence, 1615 S. Q St.

Ark., Hampton—Varnell Lumber Co.'s mill and lighting plant of Consumers' Utility Co. of Little Rock; loss \$50,000.

Ga., Dewey Rose—T. J. Hewell's store.

Ky., Bedford—Trimble County Democrat, owned by D. L. Bell, D. H. Bell and C. A. Barkley; Bedford Baptist Church and others; loss \$30,000.

Ky., Sulphur—Cavinall Hotel, owned by Mrs. W. E. May, operated by John Cavinall; loss \$12,000.

Ky., Winchester—Cloverdale Dairy; loss \$10,000; Lewis Flynn, owner.

Md., Curtis Bay, Baltimore—Portion of plant of United States Industrial Chemical Co.; loss, reported, \$250,000.

Miss., Carthage—McAfee Camp, dwellings and headquarters of timber cutters of Pearl River Valley Lumber Co.; loss \$30,000.

Miss., Walnut Grove—W. T. W. Lumber Co.'s yards, lumber, buildings and machinery; loss \$75,000; First National Bank, Meridian, owner.

Miss., Oak Ridge—C. K. Alexander's lumber yard.

Miss., Scooba—Peoples' Drug Store; C. E. Dansby's store.

Mo., Clarkson—Tatum Brothers' dry goods store.

Mo., Richmond—Gem Theatre; address The Management.

North Carolina—Luther's Chapel, Rowan County. Address Rev. E. R. Trexler, Pastor, Richfield.

N. C., Cameron—I. F. Forbes' theater; Elmore's General Store; Cohen's Store; loss \$15,000.

N. C., Lexington—C. M. Thompson's Sons' shop and foundry; loss \$50,000.

S. C., Columbia—Dining room and kitchen of Carlisle Courteney Home, T. A. M. Cook, Supt.

Tex., Cleburne—Booker T. Washington High School for Negroes; loss \$20,000; Emmett Brown, Supt. of Education.

Tex., Dallas—United Chemical Co.'s acid plant; loss \$100,000; George T. Cobb, Pres.

Tex., Houston—Frank Dew's residence, 2923 Wroton Rd.; L. R. Jones' blacksmith shop, 4720 Fannin St.

Tex., Llano—Holtzer Bldg., occupied by Norman Dry Goods Store.

Tex., Palestine—Lamar Ward School; loss \$30,000; address School Bd.

Tex., San Antonio—Dwelling, 312 Anderson St., owned by John Brown, 346 Yale St., occupied by W. C. Crawford; loss \$7000.

Va., Salem—Five bldgs. and silo on farm of A. M. Bowman, near Salem; loss \$15,000.

Va., South Norfolk, Norfolk—Huddleston Mahogany Co.'s sawmill and engine room; loss \$100,000; Roy O. Huddleston, Secy.

W. Va., Herndon—Plant of Guyan Lumber Co., L. A. Hunter, Supt.; loss \$100,000.

W. Va., Martins Ferry—Plant of Sulphiro Co., William Holliday, Gen. Mgr.

W. Va., Thurmond—Dunglen Hotel, owned by Wm. McKell, Glen Jean.

W. Va., Thurmond—Dunglen Hotel, owned by Wm. McKell, Glen Jean.

Miss., Indianola—First Baptist Church, Rev. D. Sturgis, Pastor, receives bids Aug. 7 for brick and stone church and Sunday school addition; 3 stories and basement, 60x75 ft., conc. and wood floors, comp. built-up roof; Regan & Weller, Archts., Dermon Bldg., Memphis, Tenn.

Miss., Indianola—First Presbyterian Church, Rev. Wm. H. Irvine, Pastor, received bids July 31 for \$25,000 stone and stucco bldg.; 1 and 2 stories and absement, 60x100 ft., conc. and wood floors; Regan & Weller, Archts., Dermon Bldg., Memphis, Tenn. 6-12

Mo., Pine Lawn—Nelson Memorial Presbyterian Church, Rev. Lackland Beeding, Pastor, 3721 Salome St., considers erecting \$25,000 chapel; \$75,000 auditorium later; architect not selected.

N. C., Durham—Methodist Church plans \$20,000 Sunday school annex.

N. C., Winston-Salem—Memorial Presbyterian Church, Rev. Chas. E. Clark, Pastor, plans \$100,000 bldg.; fireproof, brick and steel, 3 stories; auditorium 50x50 ft., seat 700.

Tenn., Memphis—Buntyn Methodist Church, C. B. Proctor, Chmn., Bldg. Comm., 3550 Mynders Ave., opens bids July 30 for \$150,000 church and Sunday school, Highland and Mynders Ave.; brick, stone trim, 3 stories, 112x155 ft.; auditorium seat 800; 25 to 30 classrooms; Hubert T. McGee and Erwin Phillips, Asso. Archts., both Fidelity Bank Bldg. 4-3

Tex., Edinburg—Presbyterian Church considers erecting \$15,000 Sunday school.

Tex., Taylor—First Methodist Church receives bids Aug. 1 for \$17,000 brick Sunday school; 2 stories and basement, 40x78 ft.; Wm. C. Meador, Archt., Dan Waggoner Bldg.; Fort Worth. 6-19

## City and County

Ala., Birmingham—Jefferson County Bd. of Commrs. opens bids Aug. 4 for Jefferson County Alms House, Ketona; \$200,000; furnishings, equipment, etc., \$50,000; 1 two-story bldg., 13 one-story bldgs., bar joist and conc. slab, conc. floors and foundations, slate roofs; Turner & Van Arman, Archts., 1221 Martin Building; following contractors estimating: Lewis Ogletree, Eleventh Street, Anniston, Ala.; Baston-Cook Co., West Point, Ga.; Grahm Construction Co., Red Rock Bldg., Atlanta, Ga.; J. C. Ellison & Co., Ensley, Ala.; J. O. Hayley, 611 Princeton Ave.; Southern Construction Co., 615 S. 11th St.; L. E. Ford & Co., Mountain Brook Village; J. F. Holley Construction Co., 730 19th St.; Smallman Construction Co., 1109 Fifth Ave., S.; Coston & McEaddy, 3019 Sixth Ave., S.; D. T. Underwood, Pioneer Bldg.; Foster & Creighton Construction Co., Protective Life Bldg.; E. R. Maynard, 2318 Ensley Ave.; Day & Sachs, 2400 Fifth Ave., S.; Paul Bros.; all Birmingham. See Want Section—Building Material and Equipment. 7-24

Ala., Mobile—City receives bids Aug. 7 at office Geo. B. Rogers, Archt., Van Antwerp Bldg., for branch library; drawings from Archt.

Ark., Arkadelphia—Clark County will vote at general election on jail bonds; \$50,000 or more.

Ga., Barnesville—Lamar County voted \$65,000 courthouse and jail bonds; probably select architect in few days. 7-10

La., Oak Grove—West Carroll Parish Police Jury called election for Sept. 9 on tax to remodel and enlarge jail.

La., Opelousas—City Council has offer from group represented by J. B. Carroll, Leesville, to erect \$15,000 to \$20,000 city hall.

Miss., Okolona—City voted city hall bonds; Frank Kincannon, Archt., Tupelo. 5-29

Miss., Carthage—Lake County votes Aug. 8 on \$75,000 courthouse bonds. 5-22

Okl., Oklahoma City—City Council, Oklahoma County Bd. of Commrs., Bldg. Comm. and Planning Comsn. will confer with S. Herbert Hare, member, Sld J. & S. Herbert Hare, Landscape Archts., Huntzinger Bldg., Kansas City, Mo., regarding development of civic center and erection of joint city-county bldg. on downtown railroad property bet. Hudson and Walker Aves. 2-13

## BUILDING NEWS

### BUILDINGS PROPOSED

#### Association and Fraternal

Ga., Macon—Al Shihah Temple Corp., Bruce C. Jones, Pres., Citizens & Southern Bank Bldg., receives bids Aug. 4 (extended date) for \$75,000 Shrine temple; rein. conc., brick and tile, struct. steel, Indiana limestone or cast stone or terra cotta exterior; W. Elliott Dunwoody, Archt., 460 Mulberry St., Macon; Jos. S. Shaw, Engr., Georgia Sav. Bk. Bldg., Atlanta; estimators lately noted. 7-17

Md., Baltimore—Baltimore Forest No. 45, Tall Cedars of Lebanon, Archie C. New, Chmn., Bldg. Comm., 2 E. Lexington St., selected Bernard Evander, 20 E. Lexington St., as architect for fireproof auditorium, rear of 1209-15 N. Charles St.; 1 story, 77.9 x 111 ft., \$100,000; call for bids in about 2 months. 7-10

Tenn., Goodlettsville—Asmus & Clark, Archts., Nashville Trust Bldg., Nashville, receiving bids for 2-story bldg.; stores on first floor; Goodlettsville Lodge No. 271, F. & A. M., to occupy second; 50x65 ft.

#### Bank and Office

Ark., Fayetteville—First National Bank, Art Lewis, Pres., remodel bldg.; new front, fire doors, vapor or steam heat; \$30,000; Haralson & Nelson, Achts., Merchants Bk. Bldg.; drawing plans.

Ky., Louisville—Fidelity & Columbia Trust Co., A. J. Stewart, Vice-Pres., advises has no knowledge of immediate plans to improve property, Third and Guthrie Sts. 7-24

Md., Baltimore—Maryland Trust Co., Maryland Tr. Bldg., remodel banking floor; architect not selected.

Md., Baltimore—Mercantile Trust Co., A. H. S. Post, Pres., which recently purchased Continental Bldg., Baltimore and Calvert Sts., remodel banking quarters and connect with those of Mercantile Trust.

Md., Baltimore—Realty Improvement Co., 336 N. Charles St., erect bank and office bldg., Eastern and Elwood Aves.; stone, 3 stories.

Tex., Dallas—Dallas Gas Co., 2016 Jackson St., have plans complete about Sept. 1 for \$900,000 office bldg., Jackson and Harwood Sts.; steel frame, granite base, brick above, 9 stories and basement with foundation to carry 23 stories; contract for

excavation and foundation let to Dallas Transportation Co., 817 Bourbon St.; Lang & Wittich, Archts., First Natl. Bk. Bldg.; Gardner & Howe, Struct. Engrs., 1429 Kirby Bldg., both Dallas. 4-24

Tex., Dallas—Dr. John O. McReynolds, Mercantile Bldg., plans \$2,000,000 Professional Tower Bldg., Live Oak and Harwood Sts.; 25 stories, 135x160 ft., 140,000 sq. ft. office space above second floor; set-backs at 15th, 18th and 21st floors; Flint & Broad, Archts., Melba Bldg.

Tex., Frost—Citizens State Bank started work on brick building.

Va., Norfolk—Southern Savings & Finance Co., Inc., leased Virginia Electric & Power Co. Bldg., 200 E. Plume St., H. O. Nichols, Pres., 300 E. Plume St.; bldg. to be renovated and remodeled; occupy shortly after Jan. 1.

#### Churches

Ala., Mobile—Dauphin Way Baptist Church, S. E. Dauphin and Ann Sts., purchased site, Dauphin and Carlin Sts., for bldg.; probably cost \$225,500.

Ark., Springdale—First Methodist Church, South, E. E. Guinnup, Chmn., Bldg. Comm., erect buff brick bldg.; 2 stories and basement, tile roof, steam heat; John P. Almand, Archt., Boyle Bldg., Little Rock; bids in. 9-19-29

Ark., Searcy—First Methodist Church, Wyatt Sanford, member, Bldg. Comm., remodel church and erect Sunday school; lighting system, heating plant; install pipe organ; redecorate; \$30,000.

La., New Orleans—Alex. W. Norman, Maritime Bldg., about ready for bids for 1-story chapel, Algiers.

La., New Orleans—Our Lady of the Sea R. C. Church, Rev. Jos. A. Levesque, Pastor, receives bids Aug. 13 for rein. conc., struct. steel, brick and stone trim church; separate bids for (1) sidewalk paving; (2) gas steam heating; (3) acoustical treatment; (4) tile roof; (5) organ; (6) woodwork on confessionals; (7) furniture; rein. conc. and pile foundation, tile roof, struct. steel and iron work, orna. and misc. iron work, steel sash, wood and conc. floors, metal doors, vacuum steam heat; Wogan & Bernard, Archts., Canal Bk. Bldg.; following contractors esti-

S. C., Rock Hill—City soon select architect for \$30,000 library; brick, 2 stories, tile and wood floors, conc. foundation. 1-23

Tenn., Knoxville—City Bd. of Library Trustees, W. S. Shields, Pres., receives bids until Aug. 6 for Park City Branch Library; \$25,000, fireproof, brick; plans from Baumann & Baumann, Archts., 813½ Market St. 5-15

Tenn., Memphis—City plans brick and rein. conc. fire station, Southern Ave.; 2 stories, conc. floors, comp. roof; Henry J. Kramer, Archt., Goodwyn Inst. Bldg. 5-15

Tex., Amarillo—Potter County Commrs. Court may call election Aug. 30 on \$420,000 courthouse bonds; tentative sketches by Towns, Lightfoot & Funk, Archts., Smith Bldg., Amarillo, and Page Bros., Austin Natl. Bank Bldg., Austin, call for 8-story structure. 5-13

Tex., New Braunfels—Comal County, Carl Roeper, County Judge, voted \$100,000 bonds to remodel courthouse and erect jail; face brick, struct. clay tile, rein. conc., cast stone, 3 stories and basement, jail equipment; elevator; Jeremiah Schmidt, Archt., New Braunfels; W. E. Simpson Co., Engr., Milam Bldg., San Antonio. 6-19

Va., Richmond—City Council may appropriate \$20,000 to remodel Sixth Street market, Sixth and Marshall Sts.

W. Va., Charleston—Kanawha County Bd. of Commrs. plan juvenile detention home.

W. Va., Clarksburg—Harrison County Court, Maurice L. Loudin, Clk., will select architect Aug. 27 for \$750,000 courthouse. 6-12

### Dwellings

Ala., Brighton, Bessemer—Ben C. Wilson erect frame residence; comp. roof, 1 story, Sam C. Molloy, Archt., Protective Life Bldg., Birmingham.

Ala., Tuscaloosa—A. C. Cade, Jr., 904 Twentieth St., erect brick veneer residence, Country Club Heights; stone or cast stone trim, 1½ stories, comp. roof, furnace heat; Miller & Martin, Archts., Title Guar. Bldg., Birmingham.

Ark., Fayetteville—Mrs. Robert Fulbright erect \$10,000 brick residence, Oak Park Addition; preliminary plans.

Ark., Hot Springs National Park—J. S. Steel, Dugan Stuart Bldg., plans brick residence; 2 stories and basement, 30x60 ft.; A. Stuck, Archt., Boyle Bldg., Little Rock.

D. C., Washington—Geo. I. Willis, Chandler Bldg., has permit for \$10,000 dwelling, 3217 Patterson St., N. W.; brick and tile, 2 stories.

D. C., Washington—J. B. Tiffey, 419 Oglethorpe Ave., N. W., has permit for 4 brick dwellings, 509-15 Oneida Place, N. W.; 2 stories; \$28,000.

D. C., Washington—C. H. Small & Co., 925 15th St., N. W., has permit for 6 brick dwellings, 4407-21 Fourteenth St., N. W.; 2 stories; \$40,000.

D. C., Washington—W. Walter Vaughn, 12th and Upshur Sts., N. E., has permit for 2 brick and cinder block dwellings, 1025 Varum St., N. E., and 4316 Twelfth St., N. E.; 2 stories; \$14,500.

Fla., Palm Beach—Harrison Williams, 60 Broadway, New York, alter Blythedunes, N. Ocean Blvd.; \$230,000 to \$250,000; Treanor & Fatio, Archts., Phipps Plaza, Palm Beach; bids in. 4-17

Ky., Louisville—U. S. Engineer Office has low bid at \$41,497 from Camp Knox Lumber Co., Inc., 210 Central Ave., Louisville, for 9 lockkeepers' dwellings, Lock and Dam No. 43, Ohio River. 6-19

La., New Orleans—W. H. George, 7333 Jeannette St., has permit for \$15,000 residence, Versailles Blvd. near Claiborne St.; brick veneer, 2 stories; A. H. Moise, Archt., 5495 Canal Blvd.

La., Slidell—J. Mossler, care Mossler System, Inc., 1319 Canal St., New Orleans, erect frame and stucco residence; 1 story, 64x36 ft.; Weiss, Dreyfous & Seifert, Inc., Archts., Maison Blanche Bldg., New Orleans. 7-10

Md., Baltimore—Phillip Hubert Frohman, of Frohman, Robb & Little, Archts., 16 Jackson Place, N. W., Washington, D. C., purchased Colonial dwelling, Skywater Rd., Gibson Island; remodel for summer residence.

Miss., University—M. C. Falkner erect painted white brick residence; 1 story, 53x40 ft., oak floors, tile bath, comp. shingle roof, hot water heat; Polk W. Agee, Archt., Fidelity Bk. Bldg., Memphis, Tenn.

Mo., Kansas City—H. A. Lilla & Co., 5115 Brooklyn St., erect 3 dwellings, 6204-06-10 Agnes Ave.; \$10,000.

Mo., Kansas City—Home Investment Co., Commerce Bldg., erect 14 dwellings, 420-45 E. 72nd St.; \$47,000.

Mo., Kansas City—Wells Bros., Dwight Bldg., plan 25 dwellings, 73rd and Oak Sts.

Mo., Kansas City—Barclay A. Greene, Pres., Gunite Concrete & Construction Co., 1301 Woodweather Road, purchased homesite, 6215 High Drive, Mission Hills.

Mo., Kansas City—Leon T. Mart, Pres., Marley Co., 1737 Walnut St., purchased homesite, 6840 Tomahawk Rd., Indian Hills.

Mo., St. Louis—M. Heitzman, 4143 Lee St., erect \$12,000 residence, St. Louis County; brick, 32x64 ft.

Mo., St. Louis—Angelo B. M. Corrubia, Archt., Arcade Bldg., erect brick residence, St. Louis Hills; 2 stories and basement, 28x38 ft., hardwood floors, slate roof, tile bath, warm air heat.

Mo., St. Louis—Raymond S. Davis, care Klingensmith & Grover, Archts., Louderman Bldg., has postponed erection of residence until Fall; brick, 2 stories and basement, about 27x38 ft. 7-1

Mo., St. Louis—Frank Ackerman, 7119 Waterman Ave., erect brick residence, West Moorlands subdivision; 2 stories and basement, 42x50 ft.; Maritz & Young, Inc., Archts., Chemical Bldg.; bids in.

Mo., St. Louis—Wm. B. Dean, 53 Portland Place, erect brick residence, Warson and Litzinger Rds.; 2 stories and basement, about 125x35 ft.; LaBeaume & Klein, Archts., Amer. Tr. Bldg.; bids in.

Mo., University City, St. Louis—G. A. Daus, care Chas. R. Green, Archt., Weinwright Bldg., erect brick residence, University Drive; 2 stories and basement, 32x35 ft., hardwood floors, tile bath, hot water heat.

S. C., Belton—Clarence Clinkscales erect \$15,000 residence; brick and stucco, 2 stories and basement; Willis Irvin, Archt., S. F. C. Bldg., Augusta, Ga.; preliminary plans.

Tenn., Columbia—Frank Nicholson erect conc. block, stone and stucco residence; 2 stories and basement, 40x62 ft.; Hart & Stone, Archts., Hitchcock Bldg., Nashville.

Tenn., Knoxville—Light-Pink Marble Co., Wm. Anderson, Pres., erect marble dwelling, Keowee Drive, Sequoyah Hills; Colonial type, 2 stories, 8 rooms; W. A. Rutherford, Jr., Archt., Kingston Park; work probably not start for several months.

Tenn., Memphis—Palmer Bros., Fidelity Bank Bldg., erect 2 brick veneer dwellings, 1554-58 Tutwiler Ave.; 8 rooms; \$10,000.

Tenn., Memphis—B. E. Berry, Fidelity Bk. Bldg., erect 2 brick veneer dwellings; 1 story and basement, oak floors, tile baths, comp. shingle roofs; \$10,000.

Tenn., Millington—A. E. Harold erect brick veneer Colonial residence; 1 story, 70x60 ft., oak floors, tile bath, hot water heat; Polk W. Agee, Archt., Fidelity Bk. Bldg., Memphis; plans complete.

Tenn., Nashville—H. O. Olson, 3026 Brightwood Ave., erect brick veneer, stone and conc. residence, Westwood Ave.; 2 stories and basement, 34x48 ft.; John H. Parmelee, Archt., Amer. Tr. Bldg.

Tex., Dalhart—Sam Beecroft purchased homesite, Main St.

Tex., Fort Worth—B. R. McLaughlin, 3032 Hemphill St., erect brick veneer residence, Bellaire Addition; 2 stories and basement, 30x53ft.; Earl T. Glasgow, Archt., W. T. Waggoner Bldg.; bids in.

Va., Alexandria—Ward Brown, Archt., 1211 Connecticut Ave., N. W., Washington, D. C., drawing plans to remodel and restore number Colonial dwellings in 100 block Prince St.; work probably start within 2 months.

W. Va., Wheeling—H. B. Michner, 424 Bennett St., erect \$12,000 residence, Forest Hills; brick, tile and stucco.

### Government and State

Ala., Attala—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., plans to start work in 1931 on post office.

Ala., Montgomery—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., receives bids Aug. 27 for site for \$1,000,000 post office and custom house. 5-1

Ark., Stuttgart—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., receiving bids for site for \$90,000 brick and conc. post office. 5-8

Fla., Daytona Beach—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., opens bids Aug. 28 for site for post office; about 41,000 sq. ft.

Fla., Key West—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., receives bids Aug. 1 for site survey for Federal building.

Fla., Palm Beach—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., opens bids Aug. 28 for site for \$80,000 post office. 8-22-29

Ga., Fort Benning—Following firms estimating on 60 non-commissioned officers' quarters and 8 company officers' quarters, \$520,000, bids Aug. 22 by Constructing Quartermaster, Lieut. W. M. Allison: H. H. Brown & O. C. Brown, Dothan, Ala.; Williams Construction Co.; Grahm Construction Co., both Red Rock Bldg.; Truscon Steel Co., Rhodes-Haverty Bldg., all Atlanta, Ga. 7-24

Ky., Pikeville—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., receiving bids for site for \$90,000 post office; 25,500 sq. ft.

La., Baton Rouge—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., receives bids Aug. 27 for site for \$500,000 Federal Building.

La., New Orleans—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., receives bids Aug. 7 for quarantine station; following contractors estimating: Yeager & Sons, Danville, Ill.; Wm. H. Dudley, Jr., 406 Stern Bldg.; Caldwell Bros., 816 Howard Ave.; Gervais F. Favrot, Balter Bldg.; Geo. J. Glover Co., Inc., Whitney Bldg.; J. V. & R. T. Burkes, Amer. Bk. Bldg.; H. Pratt Farnsworth, Canal Bank Bldg.; Lionel F. Favret, Louisiana Bldg.; J. A. Petty & Sons, Inc., Godchaux Bldg., all New Orleans; Algernon Blair, First Natl. Bank Bldg.; Samford Bros., Inc., 301 Washington Ave., both Montgomery, Ala.; Batson-Cook Co., West Point, Ga.; DeVault & Deitrick, Inc., Canton, O.; H. B. Nelson Construction Co., 1201 Owsley Ave., Columbus, Ga.

La., Opelousas—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., receives bids Aug. 1 for site survey for Federal building. 6-26

La., Shreveport—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., receives bids Aug. 1 for site survey for Federal building.

Md., Westminster—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., receives bids Aug. 25 for site for post office; \$125,000, including site.

Miss., Meridian—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., receives bids Aug. 27 at office of Secretary for site for post office; about 43,000 sq. ft.

Mo., Jefferson City—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., receives bids Sept. 2 for site for Federal building.

Mo., Sedalia—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., opens bids Aug. 18 for \$170,000 post office; T. H. Johnson, 208 Citizens Natl. Bank Bldg., Sedalia, estimating. 5-29

N. C., High Point—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., receives bids Aug. 25 for site for \$400,000 post office. 5-1

N. C., Salisbury—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., probably let contract in Nov. for post office; \$175,000. 3-6

Okla., Frederick—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., receives bids Aug. 4 for site survey for post office.

Okla., Tulsa—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., expects to advertise for bids about Aug. 6 for \$1,000,000 Federal Bldg. 2-37

Tex., Coleman—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., receives bids Aug. 4 for site survey for \$100,000 post office. 5-8

Tex., Houston—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., receives bids Aug. 6 for survey of site for \$615,000 addition to Federal Bldg.

Tex., Huntsville—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., receives bids Aug. 4 for site survey for post office.

Tex., Randolph Field, Schertz—Constructing Quartermaster, Capt. A. W. Parker, has low bid at \$59,900 from Harrison-Wright Co., 4 W. Third St., Charlotte, N. C., for underground elect. system, Randolph Field. 7-24

Tex., San Angelo—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., plans \$200,000 post office improvements; proposals requested for additional ground.



Tex., Sweetwater—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., receives bids Aug. 4 for site survey for post office.

Tex., Wichita Falls—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., opens bids Aug. 21 for site for Federal building.

Va., Fortress Monroe—Constructing Quartermaster, Fort Monroe, receives bids until Aug. 21 for 13 two-family houses; brick and tile; information on application.

Va., Fort Humphreys—Constructing Quartermaster, Capt. J. L. Alverson, receives bids in triplicate until Aug. 21 for 35 sets of non-commissioned officers' quarters; \$154,000. 6-5

Va., Roanoke—Following contractors estimating on post office, custom house, etc., bids Aug. 12 by Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C.: DeVault & Detrick, Inc., Canton, O.; Worsham Bros., Empire Bldg., Knoxville, Tenn.; W. P. Rose Co., Wayne Natl. Bank Bldg., Goldsboro, N. C.; D. J. Phipps, 212 Main St., Wasena, Roanoke. 7-24

W. Va., Parkersburg—Following contractors estimating on post office, bids Aug. 6 by Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C.: Yeager & Sons, Danville, Ill.; Algernon Blair, First Natl. Bank Bldg.; Samford Bros., Inc., 301 Washington Ave., both Montgomery, Ala.; Saml. Plate, P. O. Box 156, Xenia, O.; Engstrom & Wynn, Inc., 1117 Chapline St., Wheeling, W. Va.; DeVault & Detrick, Inc., Canton, O.; Skinker & Garrett, 1719 I St., N. W., Washington, D. C.; Plate Construction Co., 729 Jeanette St., Parkersburg, W. Va.; Walter Petersen, Omaha, Neb.; Hallbauer-La Bahn, Inc., 844 Rush St., Chicago, Ill. 7-17

### Hospitals, Sanitariums, Etc.

Ga., Columbus—City has low bid at \$88,412 from J. P. Bradfield, Hill Bldg., for alterations and additions to City Hospital; E. C. Wachendorf, Archt., Standard Bldg., Atlanta; T. Firth Lockwood, Asso. Archt., Murrah Bldg., Columbus. 7-10

Ga., Waycross—Ware County Bd. of Commrs. selected Stephen Ralph Fetner, 32 W. Forsyth St., Jacksonville, Fla., as architect for \$150,000 hospital, Brunel St.; fireproof, rein. conc., struct. steel, brick and tile, stone trim, 3 stories, comp., terrazzo and tile floors; Kings Daughters erect \$15,000 nurses' home. 6-19

Ky., Lexington—Good Samaritan Hospital, Henry L. Ott, Passagrille, Fla., and Crestwood, Ky., Pres., Bd. of Trustees, and member, Bldg. Comm., will let contract about Aug. 1 at Passagrille, for \$250,000 addition; Classic type, fireproof, brick and Bowling Green stone, 4 stories, 120 ft. front, buff marble wainscot and floor in lobby, acid-resisting plumbing with chromium plated fixtures, elect. dumb waiters, signal systems; Clifford F. Reichert, Archt.-Engr., Starks Bldg., Louisville, Ky. 5-22

La., Bastrop—City Council, C. J. Goodwin, Mayor, receives bids Aug. 26 for \$40,000 municipal hospital; separate bids for plumbing, heating and elect. wiring; brick, stone trim, 2 stories, rein. conc. foundation, wood and tile floors, built-up comp. roof, steel and iron work, marble work, steel sash, sheet metal work; furnishings, equipment, etc., \$20,000; J. W. Smith & Associates, Archts., Ouachita Natl. Bk. Bldg., Monroe. 6-19

Mo., Kennett—Dunkin County decided not to vote Nov. 4 on \$50,000 hospital bonds. 7-24

N. C., Gastonia—North Carolina Orthopaedic Hospital, R. B. Babbington, member, Bd. of Directors, will let contract at once for \$25,000 ward for colored children; 50 beds. 5-8

Okla., Norman—State Bd. of Public Affairs, Oklahoma City, opens bids Aug. 5 for receiving and ward bldg., Central Oklahoma Hospital, \$150,000, 3 stories; A. G. Huseman, Archt., Chickasha. 7-17

Tex., El Paso—El Paso County Commrs. probably call election for Sept. 1 on \$600,000 hospital bonds.

Tex., Palestine—Anderson County may vote in Fall on \$75,000 to \$150,000 hospital bonds.

Va., Richmond—Virginia Home for Incurables has low bid at \$213,899 from Doyle & Russell, Central National Bank Bldg., for bldg., Powhatan and Appomattox Sts.; Baskerville & Lambert, Archts., Central Natl. Bk. Bldg. 7-17

Va., Richmond—Stuart Circle Hospital, Monument Ave. and Lombardy St., opens bids Aug. 16 for \$100,000 nurses' home; \$90,000, gray brick, 3 stories, 80x90 ft., conc. and linoleum floors, comp. roof, conc. foundation; furnishings, equipment, etc., \$10,000; Chas. M. Robinson, Inc., Archts., Times-Dispatch Bldg. 7-24

### Hotels and Apartments

Tenn., Memphis—J. E. Vinsohn, Farnsworth Bldg., reported, interested in erection of 12-story apartment hotel on Union Ave., site owned by Mrs. Hugh Neely, 1418 Union St.

Tenn., Memphis—Joe Lazarov, 893 Maury St., erect \$65,000, 2-story and basement, brick veneer, 16-apartment, 1900 block Lamar Ave.; comp. built-up shingle roof, oak floors, steam heat.

Tenn., Memphis—Jones & Furbinger, Archts., Porter Bldg., preparing plans for 14-story apartment, Madison Ave. and Bellevue Blvd., on site owned by Falls Estate.

W. Va., Charleston—Charleston Apartment Corp. has permit for \$50,000, 18-family apartment, Virginia St. and Ruffner Ave.

W. Va., Charleston—W. E. Wright, 1613 Virginia Ave., erect \$25,000, 9-family apartment, 1613 Virginia St.

### Miscellaneous

Ala., Opelika—Opelika District Fair Assn. erect poultry building to replace recently burned structure.

Ark., Rogers—O. L. Gregory and Bryan Snyder develop 500-acre site, including both Electric and Diamond Springs, for summer resort; erect hotel, cabins, dancing pavilion; provide camp grounds and outdoor entertainment features.

Fla., Tampa—Following estimating on addition and improvements to building on Bayshore Blvd. for Centro-Espanol Club, 7th Ave. and 16th St.; W. P. Richardson Construction Co., 1003 W. Cass St.; W. I. Sultenfuss, 803 James St.; Domingo Ranon; Flager & Watson, 608 Tampa St.; Ed Scott, 2012 Osborne Ave.; Couch & Parslow, Archts. 6-5

La., Opelousas—Tri-Parish Fair Assn. erect five buildings.

Mo., Ferguson—Ferguson Mothers' and Children's Home of Christian Church, Mrs. D. Stone, Supt., Harnett Ave. and Darst Road, ready for bids about Aug. 5 for \$250,000, 2-story and basement, 250x110 ft., brick building; Hoener, Baum & Froese, Archts., 3605 Laclede Ave. 5-15

N. C., Charlotte—Henry Hayman, 204 E. Trade St., has low bid at \$14,429 from Andrews Construction Co., Court Arcade, for 1-story and basement, brick and conc. market; built-up and comp. roof, wood and conc. floors, steam heat; Willard G. Rogers, Archt., 404 S. Tryon St. 6-12

Okla., Oklahoma City—Oklahoma City Auditorium Assn., Inc., Dr. C. B. Kidson, Osler Bldg., has plans by Harold Gimeno, Norman, for \$2,000,000 auditorium; 3 stories, rein. conc., brick; 700 ft. frontage, entrances 200 ft. in length and side wings each 250 ft., main part of building to rise to height similar to 14-story structure; Roman design, stairways of escalator type; construction dependent on sale of common stock in Oklahoma City Auditorium Assn., Inc. 3-13

Tex., Dallas—Columbian Club, M. I. Freedman, Pres., 5400 Swiss St., rebuild clubhouse recently destroyed by fire; \$75,000; equipment and furnishings, \$15,000; 2 stories, 100x200 ft., brick, metal roof.

Tex., Laredo—Matias de Llano, V. P., Washington Birthday Celebration Assn. of Laredo, Inc., interested in organization of International Fair Assn. with capital of \$100,000, for erection of main exhibit and other buildings, including booths and pens for livestock exhibit.

### Schools

Ala., Bessemer—Jefferson County Bd. of Education, E. B. Erwin, Supt., Birmingham, receives bids Aug. 13 for 1-story, brick, 12-classroom addition to McAdory School, 6 miles from Bessemer; comp. roof; Bem Price, Archt., Comer Bldg., Birmingham.

Ark., Arkadelphia—Ouachita College Bd. of Trustees plans campaign to raise \$300,000 for building program to include science building, library building and conservatory of music; each to cost \$100,000. 1-23

Ark., Floyd—Special School Dist. Bd. of Dir., Floyd E. Bradberry, Sec., Searcy, erect 1-story brick veneer school; Lanier & Coward, Searcy, contr. at \$10,293; plans by State Bd. of Education, Little Rock; incorrectly noted at Tex., Floyd.

Fla., Tallahassee—State Bd. of Control, P. K. Yonge, Chmn., Carling Hotel, Jacksonville, receives bids Aug. 11 for following work at Florida State College for Women: (1) Central heating plant; (2) heating plant equipment foundations, coal bins, pipe tunnel, piping and electrical wiring; plans from Rudolph Weaver, Archt., Peabody Hall, Gainesville; and Robert & Co., Engrs., Bon-Alien Bldg., Atlanta, Ga.

Ga., Athens—University of Georgia, Harrison Jones, Chmn., receives bids Aug. 4 (extended date) at office Hentz, Adler & Schutze, Archts., Candler Bldg., Atlanta, for \$100,000, 3-story and basement, 118x50 ft., rein. conc., brick, struct. steel, tile, stone trim Law Bldg. 7-24

Ga., Thomasville—City plans vote on \$125,000 for high school; 2 stories and basement, rein. conc. and brick, comp. roof, stone trim; Lockwood & Poundstone, Archts., Marietta Bldg., Atlanta. 5-8

La., Homer—Claiborne Parish School Bd. receives bids Aug. 9 for auditorium at Cross Roads and Hurricane.

La., Jonesboro—Jackson Parish School Bd. erect addition and repair Eros High School.

La., Lake Charles—DeSalle Christian Brothers have low bid at \$40,688 from Gitz Construction Co., Balter Bldg., New Orleans, for rein. conc., brick and steel gymnasium-auditorium on campus of Landry Memorial High School; Wm. R. Burk, Archt., Balter Bldg., New Orleans. 7-17

La., Linville—Union Parish School Bd., P. L. Read, Sec., Farmerville, receives bids Aug. 2 for \$20,000, 1-story, brick school; also bids same date for repairs to Spearsville High School.

La., Start—Richland Parish School Bd., Rayville, having plans prepared by J. W. Smith & Associates, Ouachita Natl. Bank Bldg., Monroe, for \$25,000, rein. conc., brick, stone trim addition to school; built-up comp. roof. 7-17

La., St. Benedict—Church of St. Joseph's Abbey, Father Albert Paul, in charge, receives bids Aug. 2 at office Theo. Brune, Archt., 1536 Fidelity St.; for \$130,000, 3-story, 114x194 ft., rein. conc., brick, stone trim abbey building to include church and living quarters for seminary. 7-17

Md., Baltimore—Bd. of Awards, City Hall, has low bid at \$199,877 from Lacchi Construction Co., 17 Guilford Ave., for Arlington School addition, Main St. and Walnut Lane; 3 stories, brick, 10 rooms; Clyde N. & Nelson Friz, Archts., Lexington Bldg. 10-17-29

Md., Baltimore—Bd. of Awards, City Hall, has low bids for school improvements as follows: School No. 55, heating, \$22,332, Heer Bros., One N. Paca St.; School No. 74, heating, \$26,128, W. E. Wood Co., 18 N. Howard St.; School No. 404, roofing, \$8,000, L. C. Jarvis. 7-17

Md., Baltimore—Public Improvement Comsn., H. J. Leimbach, Supvg. Engr., and School Bd. approved bid of \$193,000 from Henry L. Maas & Sons, 1119 Ensor St., for addition to Gardenville School. 7-3

Md., Frostburg—State Bd. of Education, Annapolis, soon let contract for \$70,000 unit at State Normal School; 2 stories, brick.

Miss., Abbeville—Lafayette County School Bd., Dan T. Keel, Supt., Oxford, let contract to M. H. Rowzee, Pontotoc, for 1-story, 116x50 ft., brick, 8-classroom and auditorium school; Hull & Malvaney, Archts., Merchants Bank Bldg., Jackson.

Miss., Edwards—Edwards Consolidated Dist. Trustees receive bids Aug. 6 for addition and alterations to school; plans from N. W. Overstreet, Archt., Standard Life Bldg., Jackson.

Miss., Goodman—Holmes County Agricultural High School and Junior College, W. P. Ellis, Pres., Bd. of Trustees, receives bids Aug. 15 for building program as follows: Dormitory to house 100 students, remodel dormitories, erecting auditorium annex, improvements to administration building, brick veneer home science building, erecting home for superintendent; \$125,000; J. M. Spain, Archt., Merchants Bank Bldg., Jackson. 7-17

Miss., Lexington—Holmes County Bd. of Supervisors called election Aug. 1 on \$20,000 bonds in Consolidated School Dist. for erecting, repairing and equipping school buildings and teachers' home.

Mo., Festus—Sacred Heart Parish, Rev. Holtschneider, Parish, having plans prepared by Louis Preuss, 3711 California Ave., St. Louis, for \$35,000, 2-story and basement, brick, 12-classroom school.

Mo., Farnfield—Bd. of Education, Fonfelt Consolidated School Dist. No. 3, G. S. Cannon, Pres., receives bids Aug. 7 for 1-story gymnasium; plans from W. L. Tomlinson, Sec., Bd. of Education.

Mo., Jefferson City—Bd. of Education plans two ward schools—east and west sections; soon call election on bonds.

Mo., Normandy—Normandy Consolidated School Dist. erect 2-story and basement, 110x85 ft., brick Vinitia Park elementary school;



Wm. S. Ittner, Archt., Continental Life Bldg., St. Louis; bids in. 4-10

Mo., St. Joseph—Following contractors estimating on \$600,000, 3-story and basement, 258x249 ft., rein. conc., brick and stone Central High School, bids Aug. 7: H. W. Underhill Construction Co.; Swenson Construction Co., Shubert Bldg., both Kansas City; Lehr Construction Co., 2115 Frederick St.; Sam Hotchkiss, 1709 Penn St.; P. P. Buddy Construction Co., 501 Main St.; Lawhon Construction Co., 505 Main St., all St. Joseph; Wm. MacDonald Construction Co., Syndicate Trust Bldg., St. Louis; Olson Construction Co., Lincoln, Nebr.; Eckel & Aldrich, Archts., Corby Bldg.; Walter E. Gillham, Const. Engr., Interstate Bldg., Kansas City; Wm. B. Ittner, Inc., Supvg. Archt., Bd. of Education Bldg., St. Louis. 7-17

N. C. Leaksville—School Bd. having prepared by J. W. Hopper for high school. 7-24

N. C., Raleigh—State School for Negro Blind and Deaf Institute, C. M. Wilson, Chmn. Bldg. Comm., receives bids Aug. 12 at office of Superintendent for administration building, 4 dormitories, power house and heating plant; separate bids for stack and heating; plans for buildings from George R. Berry, Archt., 102 W. Hargett St., Raleigh; plans for power plant from Wiley & Wilson, Heating Engrs., Peoples Natl. Bank Bldg., Lynchburg, Va. 7-17

N. C., Siloam—Surry County Bd. of Education, Dobson, receives bids Aug. 11 for schools at Siloam, Green Hill, Bannertown and Cooke; D. H. Cooke, Archt., Mount Airy, selected to prepare plans and supervise construction.

N. C., Wilmington—Bd. of Education has low bid at \$22,275 from W. A. Simon, Odd Fellows Bldg., for brick, steel and rein. conc. school; Lynch & Foard, Archts., Southern Bldg.

Okla., Miami—Bd. of Education, W. J. Morley, Clk., advises that no school building is being erected at this time. 7-3

Okla., Oklahoma City—Oklahoma County Bd. of Education, Mrs. Ida M. Hale, Supt., erect \$10,000, 2-room school in Crutchfield Dist.; bids in.

S. C., Charleston—Medical College of South Carolina erect 2-story building for library and dept. of pathology; \$200,000; Simons & Lapham, Archts., 42 Broad St.; bids in.

S. C., Eastover—Bd. of School Trustees, J. F. Craig, Supt., receive bids Aug. 4 for brick veneer school; comp. roof, wood floors.

S. C., Travellers Rest—Travellers Rest School Dist. Trustees selected J. G. Cunningham, Greenville, to prepare plans for two schools; \$45,000; election soon on \$30,000 bonds; James F. Whatley, Greenville County Supt. of Education, Greenville.

Tenn., Buena Vista—Bd. of Education, Geo. N. Cate, plans Jr. High School; \$150,000 bond issue authorized; Marr & Holman, Archts., Stahlman Bldg., Nashville.

Tenn., Clarksville—State Bd. of Education, P. L. Harned, Chmn., Nashville, selected Emmons Woolwine, Ellendale Ave., Nashville, to prepare plans for girls' dormitory and demonstration school at Austin Peay Normal; \$225,000. 7-24

Tenn., Cookeville—State Bd. of Education, P. L. Harned, Chmn., Nashville, selected R. H. Hunt & Co., First Natl. Bank Bldg., Chattanooga, to prepare plans for Industrial Arts Bldg. and Home Economics Bldg. at Tennessee Polytechnic Institute; 60x140 ft. each, 2 and 3 stories, brick and conc., fireproof; probably slate roofs, conc. and brick foundations. 7-24

Tenn., Johnson City—Following contractors estimating on \$175,000, 2-story, mezzanine and basement, rein. conc. and struct. steel, brick and tile, stone trim library building at East Tennessee State Teachers College, bids Aug. 4: L. L. Merchant Construction Co., 290 Biltmore Ave., Asheville, N. C.; Fiske Carter Construction Co., Masonic Temple Bldg., Greenville, S. C.; Beeler & Co., Johnson City; A. R. McMurry, 1502 Island Home Ave.; Emory Construction Co., Empire Bldg., both Knoxville; Smallman Construction Co., 1109 Fifth Ave., S., Birmingham, Ala.; Pyle Bros., Kingsport; Home Builders Service Co., 831 Broad St., Chattanooga; Kingsolver Construction Co., Bristol, Tenn.; Foster & Creighton, Fourth and First Bldg., Nashville; Colle & Cardwell, Archts., Johnson City. 7-17

Tenn., Murfreesboro—State Bd. of Education, P. L. Harned, Chmn., Nashville, selected Marr & Holman, Stahlman Bldg., Nashville, to prepare plans for \$200,000

science building and home demonstration residence at State Teachers College. 7-24

Tenn., Memphis—West Tennessee State Teachers' College, J. W. Brister, Pres., has low bid at \$120,500 from Hamilton & Begley for 3-story and basement, 78x193 ft., brick and rein. conc. science building; plumbing, \$11,389, Heisler Plumbing Co., 260 Vance St.; heating, \$10,210, Donlon Heating Co.; wiring, \$15,850, McCrory Electric Co., 63 S. 3rd St.; refrigeration, \$2124, York Refrigeration Co.; elevators, \$2540, Shepherd Elevator Co.; West Tennessee Comsn. of State Bd. of Education voted to recommend to State Bd. that contracts be awarded low bidders; George Mahan, Jr., Archt., Manhattan Bank Bldg. 7-17

Tex., Austin—University of Texas, J. W. Calhoun, Comptroller, erect \$250,000 Littlefield Memorial gateway.

Tex., Austin—State Bd. of Control, Claude D. Teer, Chmn., receives bids Aug. 4 for \$10,000, 3-story, 13 x 60 ft., brick and rein. conc. addition to dormitory at State School for Deaf; built-up roof, cement and wood floors; Giesecke & Harris, Archts., Norwood Bldg. See Want Section—Building Material and Equipment. 7-24

Tex., Fort Worth—Fendon Dist., W. H. Matthews, Sec., erect 1-story, 4-room, brick school; C. M. Love, Archt., 304 S. Florence St. bids in on revised bids.

Tex., Fredericksburg—Fredericksburg Ind. School Dist., care H. H. Sagebiel, Sec., erect \$45,000, 1-story, 7-room, auditorium and gymnasium, brick, tile and rein. conc. school; Edward Stein, Archt.; bids in. 7-10

Tex., Middle Water—Middle Water School Dist. voted \$12,000 bonds for school building.

Tex., Mont Belvieu—Barbers Hill Ind. School Dist. Trustees having plans prepared by Harry Payne, Kirby Bldg., Houston, for school, library, commercial department, home economics dept., science laboratories, gymnasium with auditorium to seat 500; election July 29 on \$100,000 bonds.

Tex., Missouri City—Missouri City Dist. School Bd., E. M. Robinson, Pres., erect 1-story, brick and hollow tile, 7-classroom school; Albert H. Howze and James I. Campbell, Archts., Merchants and Manufacturers Bldg., Houston; bids in.

Tex., San Angelo—San Angelo Ind. School Dist., C. R. Hallmark, Sec., School Bd., receives bids Aug. 6 for 2-story and balcony, 158 x 105 ft., brick, tile and rein. conc. gymnasium; tile and wood floors; Anton F. Korn, Jr., Thomas Bldg., Dallas, and C. C. Alexander, San Angelo Natl. Bank Bldg., San Angelo, Assoc. Archts.

Tex., San Antonio—Bd. of Education, Dr. J. A. McIntosh, Pres., remodel interior of 3 buildings of high school for vocational training school; convert Bldg. No. 1 into main administration building, Bldg. No. 2 for vocational building for girls and women; Bldg. No. 3 for industrial training for men and boys; Harvey P. Smith, Archt., Natl. Bank of Commerce Bldg.; Phelps & Dewees, Bank Archts., Gunter Bldg.

Tex., Smelter, El Paso—Smelter Common School Dist. No. W-3 voted \$50,000 bonds for addition to White School and other improvements. 6-19

Va., Fairfax County—Madeira School erect group of 11 brick buildings; Waldron Faulkner, Archt., 101 Park Ave., New York; bids in.

Va., Richmond—Right Rev. A. J. Brennan, Bishop of Catholic Diocese of Virginia, Chmn. Bldg., Comm., receives bids Aug. 1 at office Carneal, Johnston & Wright, Archts., Electric Bldg., for group of 13 buildings for St. Joseph's Academy and Orphan Asylum at Hollybrook, 250-acre tract on Richmond-Washington highway; \$750,000 to \$1,000,000; consist of 8 dormitories, central chapel, school building, gymnasium and priest's house; Romanesque architecture; brick and terra cotta, stone trim, tile roofs. 7-24

W. Va., Circleville—Circleville School Dist. votes Aug. 5 on \$15,000 bonds.

## Stores

Ark., Jonesville—W. S. Montague rebuilding store buildings recently damaged by fire; \$20,000.

Ark., Leachville—E. H. Taber erect 80x40 ft., brick store.

D. C., Washington—Julius Garfinkel, 1226 F St., N. W., has permits for two 2-story

stores, 1423-26 and 1417-19 F St., N. W.; \$25,000 and \$30,000.

Ky., Lexington—Samuel B. Walton, Fayette Bank Bldg., remodel building, 235 E. Main St.; work started by Perry Lumber Co., 246 Walton Ave.; also soon let contract for \$35,000 2-story, 160x65 ft. store, Espinade and Main Sts.; brick, 10 shops; Churchill & Gillig, Archts., Fayette Bank Bldg.

Ky., Louisville—Anders Rasmussen, New Albany, Ind., erect \$50,000 building, 7th St. and Broadway, containing two 2-story storms and warehouse.

Mo., St. Louis—M. G. Rosenfeld, 6963 Wat- erman St., plans store, Meramec and Virginia Sts.

N. C., Durham—Shepherd Furniture Co., 202 Corcoran St., has permit for 1-story addition to building; \$10,000.

Tenn., Memphis—Art Flower Shop, Mrs. Jessie E. Ramsey, 1122 Union Ave., erect 2-story and basement, 40x80 ft., brick building, Union Ave. and Bellevue St.; com. built-up roof, conc. and terrazzo floors; Joe T. Wallace, Archt.; Ralph E. Dippell, Engr., both Bank of Commerce Bldg.; bids in.

Tex., Beeville—Earl Eissler erect store, North and Mary's Sts.; 40x100 ft.

Tex., Devers—J. T. McAdams, Liberty, soon let contract for brick veneer building for cafe, drug store and barber shop.

Tex., Devers—Boyt & Rice plan 2-story brick building.

W. Va., Charleston—Clara Schwabe, 1100 Quarrier St., and H. May remodel store, 814-16 Quarrier St.; \$12,000.

## Theatres

Ark., Little Rock—Arkansas Theaters, Inc., Thos. W. Freeman, Pres., remodel Kempner Bldg., Louisiana St. between Capitol Ave. and 6th St., for theater to be known as The Arkansas; seat 1600 people; cost \$100,000, including equipment; Petter & McAninch, Archts., Pyramid Life Bldg.

Tex., Alice—Hall Industries, Beeville, remodel Texas and Queen Theaters.

Tex., Beeville—R. C. Cooper erect 2-story, 12-unit apartment, N. Tyler St.; Diemann & Wagner, Archts.

## Warehouses

Ala., Birmingham—Albert S. Wynn, 2304 N. First St., erect 2-story, brick and frame warehouse; H. J. Heinze Co., Lessee, 2315 Morrison Ave.

La., Haynesville—Haynesville Warehouse Co. erect 110x150 ft. warehouse addition.

Md., Baltimore—Stewart & Co., Thomas P. Abbott, Pres., Howard and Lexington Sts., receive bids Aug. 4 for \$200,000, 2-story, steel and brick delivery warehouse and 40-car garage, 641 W. Saratoga St.; following contractors estimating: Consolidated Engineering Co., 20 E. Franklin St.; Fraine Bros. & Haigley, 19 W. Franklin St.; M. A. Long Co., 10 W. Chase St.; Morrow Bros., Inc., Fidelity Bldg.; J. L. Robinson Construction Co., Munsey Bldg.; Milton C. Davis, Inc., 902 W. 36th St.; Thomas Mullan, 3945 Greenmount Ave.; Chas. F. Stockhausen, Gay and Water Sts.; Gannett, Seelby & Fleming, 333 St. Paul St., all Baltimore; Joseph Evans Sperry, Archt., Calvert Bldg. 7-10

Tenn., Memphis—Patterson Transfer Co., Robert E. Galloway, Pres., 124 N. Second St., ready for bids about Aug. 10 for \$140,000 merchandise storage and distribution warehouse, Pennsylvania St. and Georgia Ave.; 2 stories, 280x193 ft., fireproof, rein. conc., 100,000 sq. ft. floor space; offices on second floor; Walter F. Schulz, Engr.-Archt., Shrine Bldg. 7-17

Tenn., Memphis—Charles J. Haase, 42 S. Second St., and R. Brinkley Snowden, Bank of Commerce Bldg., reported, erect 2-story, 50x170 ft. brick and conc. building, Front St. and Pontotoc Ave., to be leased to Upjohn Company, Kalamazoo, Mich., for distributing unit and branch warehouse; Harker & Cairnes, Archts., 123 S. Court St.

Tenn., Memphis—DeSoto Oil Co., 998 Kansas St., has permit for \$15,000 steel seed storage building.

Tex., Harlingen—Sherman-Magnolia Seed Co. plans warehouse.

## BUILDING CONTRACTS AWARDED

## Association and Fraternal

Tex., Dallas—Central Y. M. C. A. let contract at about \$104,000, exclusive of mechanical work, to A. J. Rife Construction Co., 1913 N. Harwood St., for Oak Cliff Branch, Tenth and Beckley Aves.; Spanish type, brick, 1 story, 112x98 ft., full basement, pile foundation; \$180,000; furnishings, equipment, etc., \$30,000; Bryan & Sharp, Archts., Constr. Industries Bldg.; R. O. Jameson, Engr., Southwestern Life Bldg.; excavating. See Want Section—Building Material and Equipment. 7-1

## Bank and Office

Ark., Fort Smith—City National Bank, 524 Garrison Ave., I. H. Nakdimen, Pres., let contract to Walter Vernon, Oak St., for bldg.; site 50x300 ft.; stone, conc. and brick; bank section 30x130 ft., height equivalent to 2 stories; remainder to consist of 13 one-story stores; Bassham & Wheeler, Archts., Kennedy Bldg. 7-1

Ga., Augusta—Sibley Manufacturing Co. let contract to E. V. Manley to remodel and erect addition to office bldg.; brick, 2 stories and basement, comp. roof; Scroggs & Ewing, Archts., S. F. C. Bldg. 7-24

Ga., West Point—Langdale Baptist Church, W. H. Parkman, Chmn., Bldg. Comm., let contract to West Point Iron Works for bldg.; about \$15,000.

Ga., West Point—Langdale Methodist Church, J. A. Reid, Chmn., Bldg. Comm., let contract to West Point Iron Works for bldg.; about \$15,000.

Mo., St. Louis—Liberty Bell Oil Co., 1430 S. Vandeventer St., erecting \$30,000 administration bldg., 1430-40 S. Vandeventer Ave.; 2400 sq. ft. floor space, English brick, terra cotta trim; offices, research and testing laboratories; Wedemeyer & Nelson, Archts., Wainwright Bldg.

Tenn., Knoxville—J. Allen Smith & Co. erect \$18,000 office bldg., site present structure; brick, east stone front, 2 stories, 40x75 ft.; R. F. Graf, Archt., Journal Bldg.; J. M. Dunn & Son, Contrs., 245 Broad St.

Va., Hampton—Bank of Hampton Virginia let contract to J. T. Wilson Co., Mutual Bldg., Richmond, for alterations and rebuilding of interior; Carnel, Johnston & Wright, Archts., Electric Bldg., Richmond. (Contractor lately incorrectly reported). 7-24

Va., Richmond—Southern Aid Society of Virginia, Inc., 525 N. Second St., let contract at more than \$125,000 to John T. Wilson Co., Inc., Mutual Bldg., for office bldg., Third and Clay Sts.; fireproof, 4 stories and basement, 60x135 ft., rein. conc. floors, conc. foundation; Edw. F. Sinnott, Archt., Amer. Bk. & Tr. Co. Bldg. 6-12

## Churches

Ark., Fort Smith—Dodson Ave. M. E. Church, South, let contract to Z. S. Rambo, 3418 Kinkead St., for \$50,000 bldg.; brick, 1 story; Haralson & Nelson, Archts., Merchants' Bk. Bldg. 7-1

Fla., Arcadia—Protestant Episcopal Church laying brick for building; J. A. Christ, Contr.

Md., Baltimore—Following sub-contracts let for alterations to Franklin Street Presbyterian Church: Plastering, H. W. Podolsky, 4903 Liberty Heights Ave.; cabinet work, John C. Knipp, 343 N. Charles St.; plumbing, Harry L. Black, 125 W. Clay St.; tile, Jos. B. Dunn & Son, 853 N. Howard St.; elect. work, Geo. W. Walther, 712 N. Howard St.; painting, T. Milton Oler, 409 N. Calvert St.; lumber, Wm. D. Gill, 1311 Philpot St.; hardwood flooring, John K. Eareckson, 820 N. Stockton St.; brick work, W. J. Hammett, Old Town Natl. Bank Bldg.; sheet metal work, Wm. F. Zeller, 613 W. Cross St.; heating and ventilating, Enterprise Steam & Hot Water Heating Co., 619 W. Franklin St.; Wm. Gordon Beecher, Archt., 12 E. Pleasant St.; Morrow Bros., Inc., Contrs., Fidelity Bldg. 7-17

Tex., Frost—First Baptist Church let contract to W. R. Turner, Crockett, for \$12,500 brick veneer building.

Tex., Gatesville—First M. E. Church remodel and erect addition to bldg.; brick, 1 story, \$15,000; Wm. C. Meador, Archt., Dan Waggoner Bldg., Fort Worth; Carl Stevens, Contr., Dublin.

Tex., Liberty—Methodist Church, J. F. Richardson, Chmn., Bldg. Comm., let contract to R. E. Meekins & Son, Trinity, for \$25,000 bldg.; brick, 2 stories, asbestos shingle roof, auditorium seat 300, 20 classrooms. 7-17

gle roof, auditorium seat 300, 20 classrooms. 7-17

Tex., Perryton—First M. E. Church, C. E. Pike, member, let contract for \$52,000 bldg. to A. J. Olson; brick brick veneer, 2 stories and basement; Wm. C. Meador, Archt., Dan Waggoner Bldg., Fort Worth.

Tex., San Antonio—Following sub-contracts let for \$400,000 church and priests' home for Shrine of The Little Flower Parish, on which excavation for church bldg. is completed and conc. structure on priests' home complete: Metal windows, Federal Supply Co., 326 Nolan Ave.; lumber, San Antonio Lumber Co., 601 Carolina St.; piling, Geo. Terrell Foundation Co.; plumbing, Jud & Ormond Co., 703 N. Flores St.; metal doors, J. L. O'Hearn Co., San Antonio Loan & Tr. Bldg.; millwork, Steves Sash & Door Co., 602 Monterey Ave.; elect. work, Graham & Collins Electric Co., 801 Main St.; rubber tile, Godart Construction & Equipment Co., Bldrs. Exch. Bldg.; granite, Rodriguez Bros., 901 Houston Ave.; painting, George Lamor; marble, Salt Lake Marble & Supply Co.; masonry, Henry Meier, all San Antonio; building stone, Consolidated Cut Stone Co., 1323 E. 5th St., Tulsa, Okla.; steel, Houston Structural Steel Co., 3910 Washington Ave., Houston, Tex.; C. L. Monnot, Archt., Perrine Bldg.; Denney Construction Co., contr., 1723 N. Zarzamora Ave., San Antonio, and 518 N. Dewey St., Box 267, Oklahoma City, Okla. 5-8

Tex., Temple—First Methodist Church let contract for \$16,000 superstructure to R. M. Van Horn, 301 Chicago Ave.; brick and tile, 1 story; basement in; Wm. C. Meador, Archt., Dan Waggoner Bldg., Fort Worth.

Tex., Yorktown—St. Pauls Lutheran Church has low bid at \$49,581 from H. J. von Rosenberg, N. Alamo St., San Antonio, for church; Marvin Eickenrodt & Bartlett Cocke, Archts., 801 Maverick Bldg.; Beretta-Stiles Co., Inc., Engr., Natl. Bk. of Commerce Bldg., both San Antonio. 7-17

## City and County

Ark., DeQueen—Sevier County Bd. of Commrs. let contract to Hardy Construction Co. for \$95,000 courthouse; brick, stone and conc., 2 stories, \$45,000 jail; Witt, Selbert & Halsey, Archts., Texarkana Natl. Bk. Bldg., Texarkana, Ark.-Tex.; bids Aug. 5 for jail equipment.

La., Many—Sabine Parish Police July let contract at about \$11,000 to G. E. Shirley, 3007 Swiss St., Dallas, Tex., for jail on top of courthouse; steam heat; C. H. Leinbach, Archt., Central Bk. Bldg., Dallas; Ed. George, Asso. Archt., Giddens-Lane Bldg., Shreveport, La. 7-10

S. C., Charleston—Charleston County let contract to Simons-Mayrant Co., Peoples Bldg., for 2 bldgs., colored Old Folks Home; \$13,500. 6-20-29

## Dwellings

Ala., Birmingham—Ray Everett, 2328 S. Tenth Terrace, erect brick and sandstone trim residence, Hoseland Drive, East Edgewood; 1 story and basement, 35x45 ft.; Edw. D. Slater, Archt., Martin Bldg.; R. R. Contr.

Ala., Birmingham—F. C. George, 902 Stuart St., Homewood, erect brick veneer residence, Mt. Brooke Estates; 2 stories, 38x65 ft., comp. roof, hot air heat; Jesse W. Green, Archt., Educational Bldg.; day labor.

Ala., Mobile—F. M. Hicks, Flo Claire, erect \$10,000 brick residence, Old Shell Rd.; 2 stories, 71x30 ft.; J. P. Roberts, Archt., Springhill; Jacob Vendersys, Contr.

Ala., Montgomery—Victor Loeb, 441 S. Hull St., let contract to Jehle Bros., Shepherd Bldg., for \$12,000 residence, 503 Fairview Ave.; brick veneer, 1 story, hardwood floors, tile bath, comp. roof.

Ark., Blytheville—J. A. Leech let contract to Mitchell & Craig for \$18,000 residence; brick veneer, 2 stories, 50x60 ft., tile floors, hot water heat, incinerator; Uzzell S. Branson, Archt., Farmers Bk. Bldg. 7-1

Ark., Little Rock—R. J. Calcote, Donaghey Bldg., erecting \$10,000 residence, 4934 Crestwood Drive; brick veneer, 2 stories, 2 baths, 8 rooms; Buford Bracy, Archt.-Contr., Home Insurance Bldg.

Ark., Little Rock—G. M. Craig, Gazette Bldg., excavating for \$11,500 residence, 5315

Sherwood Rd.; stone veneer, 2 stories, 2 baths; Jack G. Wiggins, Archt., Rector Bldg.; Carter Construction Co., Contr.

Ark., Little Rock—Miss O. L. Hunnicut erect \$10,000 residence, Park Hill; stone veneer, 1 story and basement, 40x50 ft.; Jack Wiggins, Archt., Pyramid Life Bldg.; Haley & Lasley, Contrs., 1716 Gaines St.

D. C., Washington—Col. D. B. Devere, 2202 Massachusetts Ave., N. W., erect \$150,000 residence, Wyoming Ave and 24th St., N. W.; brick and limestone, 2 stories, basement and attic, 17 rooms; landscaping; Bottomly, Wagner & White, Archts., 112 E. 55th St., New York; R. W. Bolling, Contr., Bunker Hill Rd. and 18th St., N. E., Washington.

D. C., Washington—L. E. Breuninger & Sons, Investment Bldg., have permit for \$10,000 dwelling, 1354 Juniper St., N. W.; brick and stucco, 2½ stories; owners build.

D. C., Washington—W. C. & A. N. Miller, 1119 17th St., N. W., have permit for 3 dwellings, 4331 and 4341 Forest Lane, N. W., and 4434 Garfield St., N. W.; brick, stucco, stone and frame, 2½ stories; \$37,000; owners build.

Fla., Apopka—Mrs. Hattie O. Cornell erect residence, Fifth St.; F. E. Zepp, Contr.

Fla., Coral Gables, Miami—George Pratt Brett, 60 Fifth Ave., New York, let contract to Sandquist Construction Co., P. O. Box 902, Miami, for \$50,000 residence; foundation in; conc. and masonry, 2 and 3 stories, tile and wood floors, tile roof; Wade & Oemler, Archts., Exchange Bldg., Miami. 7-17

Fla., Winter Park—Winter Park Land Co. let contract to A. W. Spinney, Winter Park, for 2 frame and stucco dwellings; 1 and 2 stories and part basement, 69x33 ft. and 64x29 ft., oak, Magnesite and tile floors; Maurice E. Kressly, Archt., Smith Bldg., Orlando; foundations in. See Want Section—Building Material and Equipment. 7-24

Ga., Atlanta—H. B. Schumpert, 139 Ellis St., N. E., erect brick veneer residence; 1 story, 6 rooms and bath, hardwood floors, comp. roof; owner builds.

Ga., Augusta—W. W. Simmons, 1322 Troupe St., erect tile and stucco duplex, 2526 Henry St.; 2 stories, 14 rooms, hardwood floors, tile roof, hot water heat; day labor under supervision of Clark Real Estate Co., S. F. C. Bldg.

Ga., Atlanta—Paul Poll, 706 Rosalia St., S. E., erect brick veneer residence, 916 Highland Ave., N. E.; 1 story, hardwood and tile floors, comp. shingle roof, hot air heat; day labor.

La., New Orleans—E. M. Williams, 1234 Arts St., erect double dwelling, Clover and Franklin Aves.; O. F. Harang, Contr., 6008 Catina St.

La., New Orleans—W. J. Ricaud erect residence, Catina St. near Taylor Ave.; Johns-Manville roof; O. F. Harang, Contr., 6008 Catina St.

La., New Orleans—Patrick Farrelly erect single residence, Louisville and Brooks Sts.; asbestos roof, tile work; Philip Schneller, Contr., 4141 Orleans St.

Md., Baltimore—A. Cuner erect 2-story cottage, 21 W. Elm Ave., Overlea Manor; Henry Kolb, Inc., Contr., Belmar Ave. and Bel Air Road.

Md., Baltimore—Baltam Realty Co. erect frame dwelling and 2-car garage, 5221 Putney Way, Homeland; Kenneth C. Miller, Archt.; Peyton B. Strobel Construction Co., Contr., 206 E. Lexington St.

Md., Baltimore—John Welsh, Bldr., 11 E. Fayette St., erect 14 brick dwellings and garages, 4600 block Arabia Ave.; 2 stories; \$42,000.

Md., Baltimore—W. H. Goodman, care Hecht Co., Baltimore and Charles Sts., erect stone residence and garage, 3609 Seven Mile Lane; 2½ stories, 8 rooms, 3 baths; J. Winthrop Wolcott, Archt., 324 N. Charles St.; Edgar A. Levi, Contr., 2309 Sulgrave Ave.

Miss., Leland—C. O. Dean let contract to M. O. Gann Construction Co., Senatobia, for brick residence; 2 stories and basement, cast stone trim; Claude H. Lindsley, Archt., Jackson Tower Bldg., Jackson. 4-24

Mo., Clarksville—Edw. Mallinckrodt, Jr., care Jamieson & Spearl, Archts., Arcade Bldg., St. Louis, erect brick residence near Clarksville; 2 stories and basement, 35x26 ft.; Chas. Sisson, Jr., Contr., Louisiana, Mo.



Mo., Clayton, St. Louis—E. Ballman, 1149 Center Drive, erect \$10,000 brick residence, 7408 Byron Place; 2 stories, 42.6x30.8 ft., stone foundation, slate roof; Hiram Phipps, Archt., 4162 Castleman St.; H. Dilschneider Real Estate & Building Co., Contr., 5763 Easton St.

Mo., Clayton, St. Louis—Jas. H. Nash, 408 Hanley Rd., erect duplex; conc. block foundation, 27.6x68 ft., tile roof; plans and constr. by owner.

Mo., St. Louis—S. Barg, 5135A Cates Ave., started work on \$10,000 addition to residence; brick, 40x40 ft.; Hiram Phipps, Archt., 4162 Castleman St.; Beerveldt & Honig Construction Co., Contr., Wainwright Bldg.

Mo., St. Louis—Henry Flach, 3656 Bates St., started work on brick residence, Buckingham and Audubon Drives; 2 stories and basement, 34x52 ft.; F. G. Avis, Archt., 1021 Big Bend Blvd.; work by sub-contract.

Mo., St. Louis—Wm. H. Duenke, 4200 Jennings Rd., erect 4 brick dwellings, Goodfellow Terrace, Normandy; 1 story, 24x38 ft.; \$10,000; owner builds.

Mo., St. Louis—First Evangelical Lutheran American Society erect \$15,000 dwelling, 4209 Bates St.; brick, 2 stories and basement, 27x46 ft., hardwood floors, comp. roof, tile bath, hot water heat; Sanders Bros., Contrs., 3901 Wilmington Ave.

Mo., St. Louis—E. Kreiger, care F. A. Schepele, Contr., 5920 Marwinette Ave., erect \$10,000 residence, 5924 Marwinette St.; brick, 2 stories and basement, 25x30 ft., hardwood floors, tile bath, comp. shingle roof, hot air heat.

Mo., St. Louis—F. Kaiser, 732 Pennsylvania Ave., erect 2 dwellings, 6001 Hartford St.; brick, 1 story and basement, 24x50 ft., tile bath, hardwood floors, asphalt shingle roof, hot air heat; \$11,000; work by sub-contract.

Mo., St. Louis—H. C. Sexton, 5008 Kings-highway, erect \$10,000 residence, 5080 Queens Ave.; brick, 2 stories and basement, 24x32 ft., hardwood floors, tile bath, asphalt shingle roof; W. Nitchman, Contr., 4942 Leahy St.

Mo., St. Louis—Amanda E. Volluz, 3215 Indiana Ave., erect \$10,000 residence, Agnes Place, Flora Gardens; brick, 1 story and basement, 46x27 ft., hardwood floors, tile bath, comp. shingle roof, hot air heat; Geo. Rathert, Contr., 3252 Ohio Ave.

Mo., St. Louis—Wm. H. Duenke, 4200 Jennings Rd., has permit for 23 brick dwellings, Goodfellow Terrace, Normandy; 1 story, 24x38 ft.; \$58,000; plans and construction by owner.

Mo., St. Louis—Chas. F. Vatterott, Jr., 4200 Jennings Rd., has contract for 17 brick dwellings, Goodfellow Terrace, Normandy; 1 story, 24x38 ft.; \$42,500; owner builds.

Mo., St. Louis—C. A. Pastel, 3722 Tennessee Ave., erect \$10,000 brick residence, 5845 Itaska St.; 2 stories and basement, 28x32 ft., hardwood floors, tile roof, hot water heat; T. L. Korte, Contr., 3722 Tennessee Ave.

Mo., St. Louis—Branner Realty Co., 5411 Gravis St., erect \$10,000 brick residence, 5700 Milentz St.; 1 story and basement, 28x45 ft., hardwood floors, tile bath, comp. shingle roof, steam heat; work by sub-contract.

Mo., St. Louis—J. A. Davie, 2200 Bredell Ave., erect brick residence, 5653 Goodfellow Ave.; 1½ stories and basement, hardwood floors, tile bath, struct. steel, misc. iron, hot air heat, elect. refrigerator; work by sub-contract.

Mo., St. Louis—Mr. Traxler, Laclede Hotel, erect brick residence, Bacon St. near St. Louis Ave.; 1 story and basement, about 17x53 ft., hardwood floors, tile bath, comp. built-up roof, hot air heat; O. J. Popp, Archt., Arcade Bldg.; work by sub-contract.

Mo., University City, St. Louis—D. C. Faherty, 4932 Forest Park Ave., erect \$12,000 brick residence, 7128 Stanford Ave.; 1½ stories and basement, 28x34 ft., hardwood floors, tile bath, comp. roof, hot air heat; work by sub-contract.

Mo., University City, St. Louis—P. K. Sylvester, 6969 Dartmouth Ave., erect \$12,000 brick residence, 7372 Tulane Ave.; 1 story and basement, 28x48 ft., hardwood floors, tile roof, tile bath, hot water heat; work by sub-contract.

Mo., University City, St. Louis—C. Rhyhan, 4246 Carter Ave., erect \$10,000 residence, 7221 Chamberlain Ave.; brick, 1½ stories and basement, 26x42 ft., hardwood floors, tile bath, comp. roof, hot water heat; Sidney Stokes, Contr., 6201 Wade Ave.

Mo., University City, St. Louis—M. Manning, 4132 McRee Ave., erect \$12,000 brick residence, 7260 Northmoor Drive; 2 stories and basement, 41x35 ft., hardwood floors, tile bath, comp. roof, hot water heat; Sears, Roebuck & Co., Contrs., Arcade Bldg.

Mo., University City, St. Louis—R. E. Anger, 5008 Julian Ave., erect \$10,000 brick residence, 7453 Amherst St.; 2 stories and basement, 27x33 ft., hardwood floors, comp. roof, tile bath, hot water heat; W. Waymeyer, Contr., 4056 N. Broadway.

Mo., University City, St. Louis—P. M. Meversack, 7839 Greenfelder St., started work on addition to residence; brick, 2 stories, 13x24 ft., comp. shingle roof; E. L. Flesham, Contr., 7370 Swan Ave.

Mo., University City, St. Louis—Jas. A. Sailes, 4207 Labadie Ave., erect \$10,000 brick residence; 1½ stories and basement, 30x31 ft., hardwood floors, asbestos shingle roof, tile bath, hot water heat; Julius E. Tarling, Archt., 2608 N. Grand Blvd.; work by sub-contract.

Mo., University City, St. Louis—F. H. Merster, 7141 Dartmouth Ave., erect \$11,000 brick residence, 7829 Lafon Ave.; 2 stories and basement, 34x22 ft., hardwood floors, comp. shingle roof, tile bath, hot water heat; Arthur T. Grindon, Archt., 7372 Sutherland Ave.; Berkley Construction Co., Contr., 6025 Delmar Blvd.

Mo., University City, St. Louis—R. G. Baumhoff, care B. S. Cornwell, Contr., Intl. Life Bldg., erect brick residence, Cannon Ave.; 1½ stories and basement, 35x36 ft., hardwood floors, tile bath, comp. shingle roof, hot water or vapor heat, oil burner; J. McCook, Archt., 1021 Big Bend Blvd.

N. C., Greensboro—Mrs. Lucile L. Holt, 701 Sunset Drive, erect brick residence, Dellwood Drive, by day labor; 1 story and basement, 60x40 ft., hardwood floors, comp. roof; Harry J. Simmonds, Archt., Jefferson Standard Bldg.

Tenn., Memphis—Geo. R. Mitchell, 2921 Union Ave., erect \$15,000 brick veneer residence, Lombardy Rd., Chickasaw Gardens; 2 stories, hardwood floors, comp. or tile roof, tile baths; owner builds.

Tenn., Memphis—Thos. J. Walsh, Sterick Bldg., started work on \$15,000 residence, 2985 Iroquois Rd.; 1½ stories, 40x53 ft., hardwood floors, comp. roof, tile bath, hot water heat; owner builds.

Tenn., Memphis—John Sneed Williams, Sr., 1686 Northern Parkway, let contract to John Johnson, Norman, for \$20,000 residence; stone, 2 stories and basement, 55x55 ft., oak floors, tile roof, tile baths, steam heat, garage and servants' quarters; Geo. Mahan, Jr., Archt., Manhattan Bk. Bldg.

Tex., Fort Worth—A. J. O'Brien, W. T. Waggoner Bldg., erect brick veneer residence, Ryan Place; 2 stories, tile baths, oak floors; Wilford Bogue, Archt., Carb Building Co., Contr., both Wheat Bldg.

Tex., McAllen—Lloyd C. Little, N. Tenth St., let contract at \$16,502 to A. M. Longoria for Spanish type residence; struct. clay tile, stucco, 2 stories, 10 rooms, wood and cement floors, tile roof; Alex. H. Woolridge, Archt.

Tex., Beeville—Dr. H. Nalley let contract for first of 4 cottages, East Beeville.

Tex., San Antonio—G. & C. Hagelstein, 310 N. St. Mary's St., developing Block E. Woodlawn Hills; erecting dwelling; plan additional dwellings.

Va., Hopewell—Walter B. Wood, Wood's Dairy Bldg. Pl. Area, erect \$16,000 residence, Appomattox St.; Southern Construction Co., Contr.; Paul Rawlings erecting \$15,000 residence, Crescent Hills.

### Government and State

D. C., Washington—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., let contract to H. Herfurth, Jr., Inc., Dist. Natl. Bk. Bldg., for alterations to eight floor, Government Printing Office, N. Capitol and H Sts.

Miss., Parchman—Mississippi State Penitentiary, J. W. Williamson, Supt., has \$100,000 appropriation available for permanent improvement during 1930 and 1931; buy some material, remainder of work by convict labor.

Va., Richmond—Otis Elevator Co., 810 18th St., N. W., Washington, D. C., has contract at \$55,732 for elevator plant for \$900,000 extension to post office, court house and custom house; National Construction Co., Inc., Contr., Glenn Bldg., Atlanta, Ga. 7-24

### Hospitals, Sanitariums, Etc.

Ala., Gadsden—Decatur Iron & Steel Co., Decatur, Ala., has struct. steel contract for \$750,000 Holy Name of Jesus Hospital; steel erection, Buchanan Construction Co., 30 Third Ave., N. W., Birmingham, Ala.; excavation, A. C. Gilbert, Gadsden; Schmidt,

Garden & Erikson, Archts., 104 S. Michigan Ave., Chicago, Ill.; J. P. Burke, Resident Engr., Box 78, Gadsden; Foster & Creighton Co., Contrs., Protective Life Bldg., Birmingham. 7-10

Ga., Fort McPherson, Atlanta—Constructing Quartermaster, Fort McPherson, Capt. R. T. Edwards, let contract to J. F. Holley Construction Co., 730 Nineteenth St., Ensley, Ala., for hospital addition; brick, 1 story, conc. footings, comp. roof. 7-10

Mo., St. Louis—Chamberlain Metal Weatherstrip Co., 4230 Olive St., has weatherstripping and caulking contract for \$1,000,000 St. Louis County General Hospital; Aegerter & Bailey, Archts., Ry. Exch. Bldg.; Taxis & Becker, Const. Engrs., Chemical Bldg.; E. P. Bradley, Mech. Engr., 4200 Forest Park Blvd.; Hall-Mackay Construction Co., Contr., 625 Locust St. 2-13

N. C., Elkin—Hugh Chatham Memorial Hospital Bd., Rev. L. R. Abernathy, Pres., let contract at \$64,913, to Frank L. Blum & Co., 800 W. 4½ St., Winston-Salem, for hospital; brick and tile, 2 stories and basement, comp. roof, stone trim; Harold Macklin, Archt., Reynolds Bldg., Winston-Salem. 7-17

Okl., Woodward—Woodward General Hospital let contract at \$15,425 to Lee E. Wilson, Woodward, for brick and conc. hospital; 2 and 3 stories, 40x34 ft., conc. floors; Edw. J. Peters, Archt., Shawnee, 7-24

W. Va., Parkersburg—Nelson Plumbing Co., 621 Market St., has heating and plumbing contract for \$300,000 St. Josephs Hospital and nurses home; elect. work, McHenry Electric Co., 506 Market St., both Parkersburg; Fox, Duthie & Foote, Archts., Union Tr. Bldg., Cleveland, O.; Plate Construction Co., Contr., 726 Jeannett St., Clarksburg. 7-17

### Hotels and Apartments

D. C., Washington—Weschester Development Corp., Bldrs., Tower Bldg., applied for permit for \$1,000,000, 8-story, conc., brick and stone apartment, 3900-4100 Cathedral Ave., second unit of group to be erected on Cathedral Ave.; 127x203 ft., 91 suites; first unit being \$200,000, 5-story building containing 60 apartments at 1815 Cathedral Ave.; Harvey Warwick, Archt., Ambassador Hotel Bldg. 4-24

Fla., Anna Maria—Van Orden & Son, Contrs., Sarasota, and New York, plan \$275,000, 3-story, 320x150 ft., brick veneer, 180-room hotel on beach near Anna Maria; building will be ¾ surrounded by piazzas which will overlook swimming pool and patio with electrical fountain; steam heat; water softening plant and electrical refrigeration system; another building to house 125 individual garages with servants' quarters above; begin work in about 30 days; George A. Freeman, Archt., Blackburn Bldg., Sarasota.

Fla., Miami Beach—Miami Beach Bay Shore Co., 846 Lincoln Road, has permit for \$15,000 improvements to Isle of Dreams Broadcasting Co. Bldg. for annex to Nautilus Hotel on Collins Island; Russell T. Pancoast, Archt., 1139 Lincoln Road; owner builds.

La., Natchitoches—Hotel Nakatosh, L. H. Johnson, Propr.-Mgr., let contract at \$23,065 to D. E. Chapman, Baton Rouge, for 4th-story addition; brick, comp. roof, wood floors, tile baths, 20 rooms; Jones, Roessle, Olschner & Weiner, Archts., Ardis Bldg., Shreveport. 7-24

Tex., Dallas—Eagle Building Co. has permit for \$16,500, 2-story, brick veneer apartment, 507 E. 10th St.

Tex., Dimmitt—N. H. Witt soon start work on 2-story, 50x150 ft., 30-room hotel; W. B. Howard, Contr.

Tex., McAllen—M. R. Nelson and associates plan to start work about Nov. 1 on \$240,000, 9-story hotel instead of \$375,000, 11-story structure as first planned; Harvey P. Smith, Archt., Natl. Bank of Commerce Bld., San Antonio. 4-24

Va., Lynchburg—P. M. Clark, Harmon Bldg., Lexington, N. C., has stone, brick and fireproof contract for \$130,000, 50-room annex to Virginian Hotel for Lynchburg Hotel Corp.; Goode Construction Co., 11 E. Fifth St., Charlotte, N. C., Gen. Contr.; Johnson & Brannon, Archts., Peoples Natl. Bank Bldg.; Albert F. Young, Lessee, both Lynchburg. 7-24

### Miscellaneous

Ala., Birmingham—Bd. of City Missions of M. E. Church, South, erect 2-story and basement, brick community house; Robt. G. Chapman, Archt., Bankers Bond Bldg.; A. J. Honeycutt, Contr., 2512 N. 8th St.

Fla., Tampa—Tampa Yacht and Country Club let contract to B. F. Walker & Sons, 316½ Franklin St., for \$50,000 clubhouse; Frank W. Winn, Jr., Archt., 207½ Twiggs St. 6-12



N. C., Greensboro—Greensboro Armory Building Co. erect \$15,000, 2-story and basement, 159x89 ft., brick and hollow tile, comp. roof, conc., wood and gravel floors; plans by H. L. Medford, City Engr., City Hall; National Guard, Lessee.

### Schools

Ala., University—Kappa Nu Fraternity, University of Alabama, let contract to D. T. Underwood, Pioneer Bldg., Birmingham, for 2-story and basement, 67x72 ft., brick veneer fraternity house; Miller & Matin, Archts., Title Guarantee Bldg., Birmingham. 7-10

Ark., Alexander—Girls Industrial School, Ben Brickhouse, Chmn., Bldg. Comm., Rector Bldg., Little Rock, erect \$20,000, 1-story, brick administration building; H. Ray Burks, Archt., Wallace Bldg.; Carter Construction Co., Contr., 1201 Dennison St., both Little Rock. 6-19

D. C., Washington—District Commrs., Room 509, Dist. Bldg., let contract at \$13,070 to Faith & Co., Inc., to install steam heating systems in Lovejoy and Magruder School; at \$48,000 to W. McCutcheon, 4132 Military Road, N. W., to install steam heating system in John Eaton School.

D. C., Washington—District Commrs., Room 509, Dist. Bldg., let contract at \$463,100 to National Construction Co., Glenn Bldg., Atlanta, Ga., for \$750,000 fireproof Alice Deal Junior High School, Davenport St., between Howard St. and Emory Place; A. L. Harris, Municipal Archt., Dist. Bldg. 7-3

Fla., Jacksonville—Bd. of Public Instruction let contract at \$29,990 to O. P. Woodcock Co., Duval Bldg., for following school additions: Norwood, 3-classroom addition; Fishweir, 43x55 ft. auditorium; Dinsmore, 3-room, addition; frame, comp. shingle and tar and gravel roofs, wood floors; Jefferson Hall, Archt., Professional Bldg. See Want Section—Building Material and Equipment. 7-17

Fla., St. Augustine—State Bd. of Control, P. K. Yonge, Carling Hotel, Jacksonville, let contract at \$8100 to Walter Denson, 2916 Olga Place, Jacksonville, for addition to central heating plant, Florida School for Deaf and Blind; Rudolph Weaver, Archt., Peabody Hall, Gainesville. 7-3

Ga., Griffin—Spalding County Bd. of Education, J. P. Manley, Supt., let contract to Robert Wheaton Sons for four 1-story, brick veneer schools in county; comp. roofs, wood floors; plans by Dept. of Education, Atlanta. 7-24

Ky., Drakesboro—Muhlenberg County Bd. of Education, Greenville, let contract to W. C. Malone, Greenville, for \$11,000 brick school.

Ky., Paducah—McCracken County Bd. of Education, C. H. Gentry, Supt., let contract at \$11,296 to Roettles & Thomasson for 2-story, 60x68 ft., 6-class, brick addition to Lone Oak High School; G. Tandy Smith, Archt. 7-24

Ky., Sutherland, R. D. from Browns Valley—Davies County Bd. of Education, Owensboro, let contract to W. M. Davis, Owensboro, for \$20,000, 1-story, 205x87.7 ft., brick and hollow tile, fireproof school; C. W. Kimberlin, Archt., 1001 Frederick St., Owensboro. See Want Section—Building Material and Equipment. 7-24

La., New Orleans—Orleans Parish School Bd., A. J. Tate, Sec., City Hall Annex, let contract at \$102,985 to J. A. Petty & Sons, Godchaux Bldg., for 8-room, brick annex and alterations to Robert E. Lee School; E. A. Christy, Supvg. Archt., City Hall Annex. 7-17

Md., Lock Raven—Maryland Training School for Boys let contract to Davis Construction Co., 9 W. Chase St., Baltimore, for \$175,000, 133x192 ft., 2-story, hollow and stucco educational and vocational building; H. P. Hopkins, Archt., 347 N. Charles St., Baltimore. 7-3

Miss., Natchez—Natchez College, J. A. Marshall, Chmn., Bldg. Comm., Lexington, let contract at \$40,000 to T. J. Muddletown, Yazoo City, for girls' dormitory; brick, built-up comp. roof.

Miss., Olive Branch—DeSoto County Agricultural High School, Prof. E. E. Long, let contract to Olive Branch Lumber & Building Co. for brick dormitory to replace burned structure; work under supervision Robert M. Lee. 6-19

Mo., Clayton, St. Louis—Bd. of Education, Mrs. V. W. Kern, Sr., 7500 Henderson Ave., let contract at \$149,775 to Kellerman Construction Co., Buder Bldg., St. Louis, for 2-story, brick Maryland Grade School; plumbing, sewerage and gas fitting, \$15,882. C. Moynihan & Son, 2007 Olive St.; heating and ventilating apparatus, \$21,749, Strong Heating Co., Chemical Bldg.; electric, \$11,683, E. A. Koenemann Electric Co., 1420 Pine

St.; Wm. B. Ittner, Archt., 911 Locust St.; all St. Louis. 7-10

Mo., Moberly—Following sub-contractors awarded on Junior College and Senior High School under construction (about one-third complete) for Bd. of Education: Rein. steel, lathing and plastering, Cockerell Engineering & Fireproofing Co., Pioneer Trust Bldg.; mill work, American Sash & Door Co., 16th and Bellefontaine St.; brick, United Clay Products Co., Lee Bldg., all Kansas City; struc. steel, LaSalle Iron Works, 3110 La Salle St.; glazing tile, C. A. Sargent, 3515 S. Grand St., both St. Louis; cut stone, Nucarth & Stone Co., Carthage; Peterson Construction Co., Pioneer Trust Bldg., Kansas City, general contractor at \$174,212; Ludwig Abt, Archt., Riegel Bldg., Moberly. 5-22

Mo., Mountain View—Bd. of Education let contract at \$12,310 to J. O. Brown, Willow Springs, for high school addition; Heckenlively & Mark, Archts., Landers Bldg., Springfield. 4-17

Mo., Perryville—St. Mary's Seminary started work on \$200,000, 4-story and basement, 195x75 ft., brick and rein. conc., fireproof dormitory; Gillespie-Daly, Inc., Gen. Contr., Intl. Life Bldg.; plumbing, J. A. Lynch Plumbing Co., 1618 Chestnut St.; electric wiring, E. A. Koenemann Electric Co., 1420 Pine St.; heating, Elliott & Barry Engineering Co., 4080 W. Pine St.; Henry P. Hess, Archt., Ambassador Bldg., all St. Louis. 7-17

N. C., Jacksonville—Onslow County Bd. of Education let contract at \$46,600 to W. A. Simon, Odd Fellow Bldg., Wilmington, for 2-story, brick, steel and conc. high school; Leslie H. Boney, Murchison Bldg., Wilmington. 7-17

N. C., Salisbury—Livingston College, Wm. J. Trent, Pres., let contract to Brown-Harry Co., Gatonia, for \$125,000, 2-story and basement, 158x77 ft., brick, J. C. Price Memorial Hall; cast stone and Indian limestone trim, tin roof; Hentz, Adler & Shute, and Ivey & Crook, Archts., Candler Bldg., Atlanta; Willard G. Rogers, Asso. Archt., Salisbury, and 510 E. Boulevard, Charlotte. 7-17

Tex., Big Spring—Bd. of Education, W. C. Blankenship, Supt., let contracts at \$24,200 and \$24,800 to J. M. Morgan Construction Co., Big Spring, for 6-room South Ward and East Ward Schools; at \$47,750 to Worth Building & Investment Co., Big Spring, and W. T. Waggoner Bldg., Fort Worth, for 12-room West Ward School; all buildings brick; Peters, Strange & Bradshaw, Archts., Lubbock. 7-24

Tex., Corsicana—School Bd. let contract at \$133,000 to Eckert-Burton Construction Co., Burt Bldg., Dallas, for junior high school; plumbing, \$11,420, Robert Layton; heating, \$14,608, C. A. Mullins, both Corsicana.

Tex., Friona—School Bd. let contract to Truitt & Landrum for \$55,000 school; Berry & Hatch, Archts., Amarillo.

Tex., San Antonio—Bd. of Education, Dr. J. A. McIntosh, Pres., let contract at \$33,442 to J. E. Dickey, 216 Eleanor St., for 1-story, 7-room, cafeteria and assembly hall addition and improvements to Robert E. Green School; J. Clyde & Percy W. Williams, Archts., Moore Bldg.; W. E. Simpson Co., Engr., Milam Bldg. 7-24

Va., Blacksburg—Virginia Polytechnic Institute, Dr. J. A. Burrus, Pres., let contract to D. J. Phipps, 212 Main St., Roanoke, for \$250,000 mechanical engineering laboratory; Virginia Bridge & Iron Works, Roanoke, has contract for 300 tons struc. steel; Truscon Steel Co., Youngstown, Ohio, has contract for rein. steel.

W. Va., Charleston—Charleston Ind. School Dist. Bd. of Education, E. A. Babcock, Sec., let contracts at \$33,602 and \$15,850 to Kuhn Construction Co., New Kanawha Valley Bk. Bldg., for 6-room, brick and stone Mt. Ovas School and 4-room addition to Capitol Grade School; Herbert S. Kyle, Archt., Union Trust Bldg. 7-17

W. Va., South Charleston, Charleston—Loudon Dist. Bd. of Education, Dr. H. H. Dunn, Pres., let contract at \$187,000 to Boone, Eason & Wood, L. C. Bldg., Bluefield, for 30-room brick and stone gymnasium and auditorium Sr. High School, Third Ave. and C St.; plumbing, West Virginia Heating & Plumbing Co., Hale St., Charleston; electric wiring, Baker Electric Co., 1309 Washington St., Charleston; heating, Columbus Heating & Ventilating Co., Columbus, Ohio; Warner, Tucker, Silling & Hutchisson, Archts., Masonic Temple Bldg., Charleston. 7-24

### Stores

Ala., Gadsden—C. A. East let contract to W. H. Mayben for \$40,000, 125x225 ft., brick building on S. 5th St.

Ala., Mobile—National Bellas Hess Co., Inc., let contract to R. E. Sundberg Con-

struction Co., 307 N. Royal Ave., for additions and alterations to building, Conception and Jochin Sts.; \$60,000; 2 stories, brick, comp. roof; Holmes & Hutchinson, Archts., First Natl. Bank Annex.

Ark., McGehee—J. S. Dessent started work on \$25,000 brick store and hotel on S. First St.; J. M. Thompson, Contr., Monticello; first floor to be occupied by Peoples Dry Goods Store; upper floor for hotel to be operated by Mrs. A. G. Kavanaugh.

D. C., Washington—Julius Garfinckel & Co., 13th and F Sts., N. W., let contract to Chas. H. Tompkins Co., 1608 K St., N. W., for 2-story stores, 1417-19 F St., N. W., 1423-25 F St., N. W. and 14th and G Sts., N. W.; steel frame, wood joist, limestone front, wood floors, slag roof; Starrett & Van Vleck, Archts., 393 7th Ave.; Purdy & Henderson, Engrs., 45 E. 17th St., both New York.

Ga., Savannah—Max Wolff, American Bldg., let contract to D. G. Beasley, 307 W. Duffy St., to remodel 3-story brick and stucco building, Harris and Drayton Sts.; 5 stores on ground floor, apartments above; Arthur F. Comer, Archt., Washington.

La., Baton Rouge—Scott Stores, Inc., 430 W. Randolph St., Chicago, let contract to John W. Garrett, 941 College St., Jackson, Miss., for improvements to 2-story, brick store, 405 Third St.

La., New Orleans—Krauss Co., Ltd., Canal and Basin Sts., let contract at \$11,375 to H. Pratts Farnsworth, Canal Bank Bldg., for additions and alterations to store; Favrot & Livaudais, Archts., Hibernia Bank Bldg.

La., New Orleans—Geary-Oakes Co., Queen & Crescent Bldg., has contract at \$17,511 for store front, alterations and repairs to 4-story, brick and frame building, 733 Canal St.; Moise H. Goldstein, Archt., Am. Bank Bldg. 7-17

Mo., Springfield—J. J. Newberry Co., 245 Fifth Ave., New York, let contract to Will W. Johnson, 301 College St., Springfield, to remodel building for store; \$45,000.

Mo., St. Louis—A. J. Cicardi, 4223 Delmar Blvd., excavating for \$20,000, 1-story, 91x38 ft., brick and conc. store; comp. roof; J. S. Alberici, Contr., Boatman's Bank Bldg.

N. C., Charlotte—Belk Brothers, 23 E. Trade St., let contract to J. A. Jones Construction Co., Commercial Bank Bldg., to rebuild store recently damaged by fire; \$40,000.

S. C., Rock Hill—Belk Brothers, 23 E. Trade St., Charlotte, N. C., started work on \$100,000, 64x129 ft., 2-story and basement, brick store on Main St.; J. E. Healan, Contr., Rock Hill; A. D. Gilchrist, Archt., Rock Hill. 7-17

Tex., Goose Creek—George McKinstry erecting \$36,000, 2-story, brick hotel and store.

### Theatres

Fla., Jacksonville—C. M. Lewis, 911 Main St., let contract to A. D. Perry, Jr., Bisbee Bldg., for additions and improvements to theater, W. Ashley and Jefferson Sts.; Jefferson D. Powell, Archts., Professional Bldg. 7-10

Mo., Springfield—Management Electric Theater expend \$20,000 for improvements; Will N. Johnson, Contr., 301 College St.

Tenn., Bristol—J. G. Tilley, Bristol, has contract for steel construction for \$300,000, 2-story, 85x230 ft., rein. conc., struc. steel, brick and tile theatre for Bristol Theatre Corp., David D. Meyer, Pres., 1909 First Ave., Birmingham, Ala.; Smallman Construction Co., Gen. Contr., 1109 Fifth Ave., Birmingham, Ala.; McDonald & Co., Engrs., Southeastern Trust Bldg., Atlanta, Ga.; Paramount-Public Theatres, Corp., Paramount Bldg., New York, Lessee. 7-3

### Warehouses

N. C., Asheville—T. C. Smith, 14 Lexington Ave., let contract to L. L. Merchant Construction Co., 290 Biltmore Court, for \$20,000, 3-story and basement, 90x25 ft., brick, steel frame, limestone trim warehouse, Battery Park Ave.; to be leased to Crane Co., 836 S. Michigan Ave., Chicago; Henry I. Gaines, Archt., Public Service Bldg.

Tex., Dallas—Ferro Construction Co., 37 W. Van Buren St., Cincinnati, Ohio, erect \$300,000, 4-story, 105x333 ft. office building and warehouse, Orange and Cedar Sts., for Great Atlantic and Pacific Tea Co., R. N. Crocker, V.-P. of Southern Div., 703 McKinney St.; Christy-Dolph Construction Co., Contr., Construction Industries Bldg., Dallas.

Va., Richmond—Richmond, Fredericksburg & Potomac R. F., E. M. Hastings, Ch. Engr., let contract to Doyle & Russell, Central Natl. Bank Bldg., for \$100,000, 2-story, 260x188 ft., brick and conc. warehouse to be leased to The Great Atlantic & Pacific Tea Co., 100 W. Clay St.

# WANT SECTION

## THE CLASSIFICATIONS IN THIS SECTION ARE:

### Machinery and Supplies

Under this heading are reported requests for data, prices and literature and information on machinery, supplies and miscellaneous materials of a wide variety.

### Building Materials and Equipment

This division comprises all classes and kinds of materials and equipment used in building and construction projects of every kind.

### Bids Asked

Includes bids asked by U. S. Government, States, districts, municipalities, firms and individuals for machinery, materials, supplies and construction work.

Items in this department are published without charge and these columns are open for the publication of wants of all kinds relating to construction work, machinery, materials and supplies.

### Machinery and Supplies

**Air Compressor.**—H. Herfurth, Jr., Inc., Contr., District Natl. Bk. Bldg., Washington, D. C.—Wants prices and data on 120-ft. air compressor.

**Embroidering Machine.**—Freedman Nicoletti, Inc., M. Nicoletti, Pres., 2039 Main St., Jacksonville, Fla.—Wants prices and data on machine for embroidering names on garments for industrial plants.

**Fence Weaving Machinery.**—State-Owned Farms, Geo. R. Ross, Director, 835 W. Morgan St., Raleigh, N. C.—Wants prices and data on machinery for weaving 36-in. fencing.

**Milk Condensing Plant Materials and Equipment.**—O. P. Trotter, Batesburg, S. C.—Wants prices and data on materials and equipment for establishing milk condensing plant.

**Motors, Electrical Equipment, etc.**—Southwestern Veneer Co., Cotton Plant, Ark.—Wants prices and data on motors, electrical equipment, etc., for addition to plant.

**Mowing Machine (Power).**—A. B. Hurst, 901 North East 80th St., Miami, Fla.—Wants prices and data on power mowing machine with 3 ft. 6-in. blade, for mowing tall grass and weeds along parkways of streets.

**Rubber Covered Thread Making Machinery.**—See Miscellaneous.

**Straightening Rolls.**—Nashville Bridge Co., foot of Shelby Ave., Nashville, Tenn.—Wants prices and data on set of used hand straightening rolls, capacity ¾-in. plates.

**Woodworking Machinery.**—Charles P. Limbert Co., Holland, Mich.—Wants prices and data on complete line woodworking machinery necessary for making dining room furniture.

Barbour & Short, Contrs., 229 W. Main St., Norman, Okla. Want prices and data on following:

- (1) Band Saw
- (2) Mortiser—hollow chisel
- (3) Tenoner.

E. J. Hoffman Mfg. & Development Co., E. J. Hoffman, Pres., Chamber of Commerce, Galveston, Tex., manufacturer of automobile head lights, air pumps, airplane accessories, etc.—Wants prices and data on following:

- (1) Buffers
- (2) Cut-Off Machine
- (3) Die Castings
- (4) Die Machines—50 ton
- (5) Drill Presses
- (6) Fans—Siropco
- (7) Fan Ducts
- (8) Grinders
- (9) Heaters—Ventro
- (10) Lathes—turret, 6 in.
- (12) Milling Machine
- (13) Metal Roll
- (14) Motors—1 to 5 h. p.
- (15) Rivet Header
- (16) Riveting Machine
- (17) Screw Machine—automatic
- (18) Shears—rotary
- (19) Spot Welder—Hanson, Van Wrinkle & Munning.

Oklahoma Mop & Sanitary Specialty Co., 518 N. Broadway, Oklahoma City, Okla.—Wants prices and data on following:

- (1) Scrubbing Machine
- (2) Soap Agitators.

Redyee Corp., 360 Wilcox Bldg., Los Angeles, Calif.—Wants prices and data on following:

- (1) Bottling Machinery
- (2) Trucks and Plant Equipment.

Dunman Perry, 1311 Athletic Club Bldg., Dallas, Tex.—Wants prices and data on following:

- (1) Batch Cars—60, 120—40 cu. ft. steel tip over batch boxes
  - (2) Locomotives (Gasoline)—8 ton
  - (3) Track—24-in. gauge, portable, 25-lb. rails.
- Miss W. S. Pratt, P. O. Box 718, Atlanta, Ga.—Wants prices and data on following:
- (1) Cooperage Machinery
  - (2) Vegetable Cutter—for cutting vegetables for pickling and for sauer kraut.

P. M. Clark, 10 Harmon Bldg., Lexington, N. C.—Wants prices and data on following:

- (1) Hoist (gasoline)—prefers LeRoi engine
- (2) Mortar Mixer.

### Miscellaneous

**Church Pews.**—M. M. Cummings Building Material Co., Walterboro, S. C.—Wants prices and data on 11-ft. church pews.

**Moulding.**—North Side Sheet Metal Works, 1241-43 W. 47th St., Norfolk, Va.—Wants prices and data on sheet metal moulding and metal covered wood moulding.

**Rubber Thread.**—G. D. Smith, P. O. Box 12, Burlington, N. C.—Wants prices and data on rubber covered thread, small enough to be used on knitting machine, or on machinery for making rubber covered thread.

University of Arkansas, G. H. Banks, Asst. Director in Charge, Stuttgart, Ark.—Wants prices and data on device for killing insects as they light on screens.

Miraflores Poultry Yards, Inc., Leonard A. Phillips, P. O. Box 496, Hammond, La.—Wants prices and data on following:

- (1) Grit and Oyster Shell Hoppers—11
  - (2) Feed Hoppers
  - (3) Pecan Trees—35, extra large, any variety
  - (4) Tractor (Garden)
  - (5) Trap Nests—160, in sections of 8 nests
  - (6) Water Founts—to supply 1100 hens.
- Redyee Corp., 360 Wilcox Bldg., Los Angeles, Calif.—Wants prices and data on following:
- (1) Bottles—bearing trade mark
  - (2) Containers—glass, display
  - (3) Glasses—bearing trade trade
  - (4) Shipping Containers.

### Building Material and Equipment

A. J. Rife Construction Co., 1913 N. Harwood St., Dallas, Tex., wants prices on following for \$180,000 bldg.:

- Flooring—tile, composition
- Metal Doors.

Barbour & Short, Contrs., 229 W. Main St., Norman, Okla., wants prices on following for \$35,000 theatre and store:

- Artificial Stone
- Roofing—built-up.

Brice Estes Construction Co., Contr., Woodward Bldg., Birmingham, Ala., wants prices on following for \$70,000 school, Cullman, Ala.:

- Flooring—tile
- Marble
- Roofing—asbestos shingle, built-up
- Tile—gypsum, hollow.

C. W. Kimberlin, Archt., 1001 Frederick St., Owensboro, Ky., wants prices on following for \$20,000 school, Sutherland, Ky.:

- Cast Stone
- Flooring—hardwood, tile
- Limestone
- Rolling Partitions
- Roofing (hlp)—built-up
- Steel Sash and Trim
- Tile—hollow.

Geo. D. Waller, Archt., Ind. Life Bldg., Nashville, Tenn., wants prices on following for \$50,000 high school:

- Flooring—hardwood, composition
- Limestone
- Roofing—built-up
- Steel Sash
- Tile.

Maurice E. Kressly, Archt., Smith Bldg., Orlando, Fla., wants prices on following for 2 dwellings, Winter Park, Fla.:

- Cast Stone
- Flooring—hardwood, tile, composition
- Metal Doors
- Roofing—tile
- Steel Sash
- Wire Glass.

The Butler Co. Archts., Insurance Bldg., Oklahoma City, Okla., want prices on following for \$50,000 school, Sayre, Okla.:

- Cast Stone
- Flooring—terrazzo
- Plaster Board
- Roofing—built-up
- Tile—hollow.

Turner & Van Arman, Archts., 1221 Martin Bldg., Birmingham, Ala., want prices on following for \$200,000 alms house, Ketchikan, Birmingham, Ala.:

- Cast Stone
- Dumb Walters
- Electric Refrigerators
- Elevators
- Flooring—tile, composition
- Limestone
- Metal Doors
- Roofing—slate, tile
- Sprinklers
- Tile—gypsum, interior
- Ventilators
- Wire Glass
- Brass and Bronze Work.

Wm. I. Deming, Archt., 808 Seventeenth St., Washington, D. C., wants prices on following for mechanical laboratory addition to north bldg., Bureau of Standards:

- Flooring—terrazzo, tile
- Limestone
- Marble
- Roofing—tile
- Vault Lights.

Giesecke & Harris, Archts., Norwood Bldg., Austin, Tex., want prices on following for \$10,000 addition to dormitory:

- Limestone—local
- Roofing—built-up.

H. Herfurth, Jr., Inc., Contr., District Natl. Bank Bldg., Washington, D. C., wants prices on following:

- Flooring—tile
  - Marble
  - Plaster Board.
- Jefferson D. Powell, Archt., Professional Bldg., Jacksonville, Fla., wants prices on following for school additions:
- Cast Stone
  - Roofing—asphalt shingle.

### Bids Asked

**Aerial Survey.**—U. S. Engr. Office, Postal Telegraph Bldg., Kansas City, Mo.—Bids Aug. 25 for aerial survey of Missouri River covering about 900 miles. (See Construction News Columns—Miscellaneous Construction.)

**Ambulance.**—Surgeon in Chief, Freedmen's Hospital, Washington, D. C.—Bids Aug. 4 for ambulance.

**Bridge.**—Lincolnton, Ga. See Construction News—Bridges, Culverts, Viaducts.

**Bridges.**—State of Tennessee. Bids for 2 bridges and approaches. See Construction News—Roads, Streets, Paving.

**Bridge, Culverts.**—Greenwood, Miss. See Construction News—Bridges, Culverts, Viaducts.

**Bridges.**—State of Tennessee. Bids for 19 bridges. See Construction News—Roads, Streets, Paving.

**Bridges.**—State of Virginia. Bids for 2 bridges. See Construction News—Roads, Streets, Paving.

**Bridges.**—State of West Virginia. Bids for 5 bridges. See Construction News—Roads, Streets, Paving.

**Binders and Tabs.**—Bd. of Awards, Office of City Register, City Hall, Baltimore, Md.—Bids Aug. 6 for 131 binders (various sizes) and 1700 tabs, for Appeal Tax Court.

**Bridges.**—State of Kentucky—Bids for 11 bridges. See Construction News—Bridges, Culverts, Viaducts.

**Bridge.**—Lanham, Md. See Construction News—Bridges, Culverts, Viaducts.

**Cameras (Motion Picture).**—Bureau of Supplies and Accounts, Navy Dept., Washington, D. C.—Bids Aug. 5 for motion-picture cameras to naval powder factory, Indian Head, Md.

**Chemicals.**—Coast Artillery School Supply Officer, Fort Monroe, Va.—Bids Aug. 6 for chemicals.

**Chloride.**—Commsr., Dist. of Columbia, Washington, D. C.—Bids Aug. 6 for 100 tons calcium chloride.

**Chlorinator.**—Chemical Warfare Service, Edgewood Arsenal, Edgewood, Md.—Bids Aug. 5 for chlorinator.



**Cradles (Metal).**—Div. of Supplies, Dept. of Commerce, Washington, D. C.—Bids Aug. 5 for 80 metal cradles for 515-gal. fuel tanks.

**Dredging.**—U. S. Engr. Office, Mobile, Ala.—Bids Aug. 21 for maintenance dredging approx. 3,000,000 cu. yd. material, including overdepth, Gulfport Ship Channel and anchorage basin, Gulfport, Miss.

**Dredging.**—U. S. Engr. Office, Mobile, Ala.—Bids Aug. 22 for maintenance dredging approx. 1,500,000 cu. yd. material including overdepth, Mississippi Sound Channel, Pascagoula, Miss., to depth of 17 ft. and width of 150 ft.

**Dredging.**—Bd. of Awards, Office of City Register, City Hall, Baltimore, Md.—Bids Aug. 6 for maintenance dredging in Baltimore Harbor, comprising Patapsco River and tributaries; Elmer E. Hammond, Harbor Engr.

**Elevators.**—Supvg. Archt., Washington, D. C.—Bids Aug. 12 for installing complete elevator plant in U. S. post office, court house, etc., Roanoke, Va.

**Furniture (Reed and Hickory).**—Marine Corps, Q. M. Dept., Washington, D. C.—Bids Aug. 6 for reed and hickory furniture, delivery to Sewall's Point, Va.

**Hammers and Axes.**—U. S. Engr. Office, Huntington, W. Va.—Bids Aug. 7 for hammers and axes.

**Hardware.**—Marine Corps, Q. M. Dept., Washington, D. C.—Bids Aug. 7 for hardware, delivery Quantico, Va.

**Jail Equipment.**—Sevier County Bd. of Commrs., DeQueen, Ark., and Witt, Seibert & Halsey, Archts., Texarkana Natl. Bk. Bldg., Texarkana, Ark.—Bids Aug. 5, at DeQueen, for equipment for \$45,000 jail.

**Machine Bolts, Nuts and Washers.**—U. S. Engr. Office, Huntington, W. Va.—Bids Aug. 4 for machine bolts, nuts and washers.

**Oil, Grease, Gasoline and Kerosene.**—State Highway Dept., Office of Bd. of Control, Austin, Tex.—Bids Aug. 14 for furnishing 4,250,000 gal. gasoline, 80,000 gal. kerosene, 170,250 gal. lubricating oils, 215,000 lb. mineral lubricating greases and 13,000 gal. transmission oils to State Highway Department and eleemosynary institutions for period of 1 year commencing Sept. 1, 1930.

**Paint, etc.**—Marine Corps, Q. M. Dept., Washington, D. C.—Bids Aug. 7 for paint, etc., delivery Quantico, Va.

**Paint Materials.**—Ben M. Sawyer, Ch. Highway Commrs., Columbia, S. C.—Bids Aug. 4 for following paint materials: 36,000 lb. white lead paste (basic carbonate), 15,000 lb. zinc oxide paste, 30,000 lb. raw linseed oil.

**Paving.**—Houston, Tex. See Construction News—Roads, Streets, Paving.

**Portland Cement.**—State Highway Dept., Columbia, S. C. Bids Aug. 5 for Portland cement, for road projects in Orangeburg, Calhoun, Abbeville and Spartanburg-Laurens Counties.

**Printing Presses.**—Pur. Agt., Government Printing Office, Washington, D. C.—Bids Aug. 29 for 1 or 2 rotary printing presses.

**Refrigerating Unit (Mechanical).**—Marine Corps, Q. M. Dept., Washington, D. C.—Bids Aug. 5 for mechanical refrigerating unit, delivery Hampton Roads, Norfolk, Va.

**Resistors.**—Div. of Supplies, Dept. of Commerce, Washington, D. C.—Bids Aug. 4 for 6 resistors.

**Riprap Sea Wall Foundation.**—U. S. Engr. Office, Navy Bldg., Washington, D. C.—Bids Aug. 18 for furnishing and placing 24,000 tons, 40% more or less, riprap sea wall foundation along Anacostia River, Washington.

**Roads.**—State of Virginia—Bids for 5 roads. See Construction News—Roads, Streets, Paving.

**Road.**—Jasper, Ala. See Construction News—Roads, Streets, Paving.

**Roads.**—State of Tennessee. Bids for 11 roads. See Construction News—Roads, Streets, Paving.

**Roads.**—Knoxville, Tenn. See Construction News—Roads, Streets, Paving.

**Roads.**—State of Maryland. Bid for 19 roads. See Construction News—Roads, Streets, Paving.

**Roads.**—Dallas, Tex. Bids for 2 roads. See Construction News—Roads, Streets, Paving.

**Road.**—Jefferson Barracks, St. Louis, Mo. See Construction News—Roads, Streets, Paving.

**Roads.**—State of Oklahoma. Bids for 9 roads. See Construction News—Roads, Streets, Paving.

**Roads.**—State of West Virginia. Bids for 10 roads. See Construction News—Roads, Streets, Paving.

**School Equipment.**—Louisiana State School for the Deaf, Baton Rouge, La.—Bids Aug.

15 for equipment for primary rooms, class rooms, auditorium, library, home economics and sewing room, cooking room, principal's office, rest rooms, etc.

**Searchlight Units.**—Ch. of Engineers, Washington, D. C.—Bids Aug. 15 for 60-in. mobile searchlight units, Model M-VI.

**Screens and Shades.**—Office of Construction Quartermaster, Fort Geo. G. Meade, Md.—Bids Aug. 5 for furnishing and installing

window shades and insect screens in 16 sets of non-commissioned officers' quarters.

**Soap, etc.**—Marine Corps, Q. M. Dept., Washington, D. C.—Bids Aug. 4 for 35,000 lb. laundry soap, 35,000 lb. soap powder and 5000 cans cleanser, delivery Quantico, Va.

**Street.**—Greenwood, Miss. See Construction News—Roads, Streets, Paving.

**Street.**—Fort Bragg, N. C. See Construction News—Roads, Streets, Paving.

## INDUSTRIAL NEWS OF INTEREST

Items of news about industrial, railroad or financial interests, building operations, construction work, municipal improvements, or the sale of machinery or the letting of contracts in the South or Southwest, are invited from our readers, whether they are advertisers, or subscribers, or not. We invite information of this character from readers in the North and West about their Southern business operations, as well as from Southern readers. News of value will be published just as readily when from non-advertisers as from advertisers.

### Additional Plant for Coatesville Company

The plant at Middletown, Pa., of the Standard Steel Car Company was recently acquired by the Coatesville Boiler Works of Coatesville, Pa. Plant buildings occupy a site of 40 acres and are of brick and steel construction, designed and equipped especially for plate fabrication. Added to the present shops of the Coatesville Boiler Works, the new plant will greatly increase capacity of that company, making it one of the largest in America devoted exclusively to steel plate fabrication. In addition to its fire-box heating boilers, oil field boilers, steam regenerators, galvanizing kettles and asphalt plant equipment, the company contemplates manufacturing other additional lines of steel plate products.

### 8-Hour Day in Universal Atlas Plants.

A plan to eliminate the 12-hour working day, providing shorter hours for men on that schedule and giving employment to others, has been worked out in the plants of the Universal Atlas Cement Company, Chicago, according to B. F. Affleck, president. Substitution of three instead of two shifts was completed July 15. All mills of the company are now on the same working basis of 8 hours a day. In addition to the Waco and Leeds plants, other mills of the company are at Hudson, N. Y.; Northampton, Pa.; Universal, Pa.; Buffington, Ind.; Duluth, Minn.; Hannibal, Mo., and Independence, Kans.

### New Offices of Wood Preserving Companies.

The Maryland Wood Preserving Co., W. H. Clifton, sales manager, and the Carolina Wood Preserving Co., Charleston, S. C., formerly J. F. Prettyman & Sons Wood Preserving Plant, announce the establishment of offices in the Baltimore Trust Building at Baltimore.

## Trade Literature

**Public Works Planning and Control.**—Advance proofs of "Planning and Control of Public Works," a report of the Committee on Recent Economic Changes of the President's Conference on Unemployment, have been received from the National Bureau of Economic Research, Inc., New York. The work includes the report of Leo Wolman of the National Bureau of Economic Research and presents chapters on the Expenditures of Cities, Public Works in New York City, The Government of New York State, Federal Construction, Public and Private Construction, Road Building, The Financing of Public Construction, Future Projects, Planning and Procedure and The Problem of Control, with an appendix and an index.

### Two Forest Service Films.

Two films recently released through the Office of Motion Pictures, U. S. Department of Agriculture, Washington, should be of value to those interested in forest conservation and in economic aspects of the forest industry. One is "Selective Logging" and the other "Forest or Wasteland." The films may be borrowed from the Office of Motion Pictures, the borrower paying transportation charges.

**Railroad Equipment.**—The Whiting Corporation, Harvey, Ill., manufacturers of cranes, foundry equipment and railway specialties, have issued a new railroad equipment catalogue devoted to modern methods in repair shops. Many items of terminal equipment listed in the publication are of recent invention and adaptation.

**Oxy-acetylene Welding.**—Two pamphlets recently issued by the Linde Air Products Company, New York, have been published as a part of the Linde process service. One presents an outline of instructions for air-craft welders based on procedure control; the other illustrates and describes application of the oxy-acetylene process as a production method in a number of important industries.

**Power and Light.**—The Pentagon, a publication issued by and for the employees of the Central Power and Light Company, San Antonio, Tex., has been issued for July. It presents articles on the recently completed Laredo-Robstown transmission line connecting Laredo with the Gulf Coast, a distance of 362 miles, and on the Beeville-Kenedy line, also recently completed.

**Use of Pure Iron.**—The second 1930 issue of The Pure Iron Era, an international magazine devoted to industrial conservation and development through the use of ferrous metals of special analysis, is now being distributed. The magazine is published at Middletown, Ohio, by the Armco International Corporation, New York, and should be of value to executives, engineers, salesman and others connected with the iron industry.

**Fin Tube Economizer.**—A catalog has been issued by the Combustion Engineering Corporation, New York, illustrating and describing the C-E fin-tube economizer, developed by that company and incorporating several improvements of design. Important among these new features is the arrangement of finned U-tubes, making possible installation of the economizer in minimum space. Other features include fewer return bend joints, high rate of heat transfer, low water pressure drop and easy cleaning and inspection.

**Unit Pulverizer.**—Bulletin No. 10, issued by the Whiting Corporation, Harvey, Ill., manufacturers of cranes, foundry equipment and railway specialties, illustrates and describes the Whiting No. 3 unit pulverizer. This machine is equipped with the company's new high-low velocity burner, developed in connection with the unit, and is specially adaptable to industrial furnace and small boiler firing.

**Soldiers of Progress and Industry.**—The volume, from the pen of John R. Hornaday, author of *The Book of Birmingham*, and published by Dodd, Mead & Company, New York, is biographical in conception and execution, recounting in detail a large portion of the life and achievements of Captain William Patrick Lay, of Gadsden, Ala., founder and first president of the Alabama Power Company and instigator of many of that company's notable accomplishments. Captain Lay was not only a pioneer in the discovery and advocacy of the development of Southern resources, but gave the subject of hydro-electric power intensive thought and pushed to fruition many of his early dreams along that line.

## JACKSONVILLE MODEL GROCERY STORE

### Department of Commerce Aided in Establishment of Retail Plant for Demonstration Purposes

Jacksonville, Fla.—In such enterprises fostered by the Bureau of Foreign and Domestic Commerce of the Department of Commerce, Washington, as the Louisville Grocery Survey and the Jacksonville Model Retail Grocery Store, the purpose is to stimulate the interest of local merchants and show the retailer how economies of operation may be effected, how he may attract customers and increase the business of older customers without increasing the expense of operation or entailing additional cost to the consumer. In connection with the establishment of the Jacksonville Model Retail Grocery Store, W. H. Meserole, a business specialist of the Department of Commerce, was sent here because of his broad knowledge of the subject and his previous connection with the Louisville Grocery Survey.

The local store was opened to the public on July 4. It is the outcome of demands made by many local interests connected with the grocery trade, according to W. N. Pearce, district manager of the Bureau of Foreign and Domestic Commerce, with offices in this city. These interests primarily consist of the Jacksonville Retail Grocers Association, Jacksonville Wholesale Grocers Association and the Jacksonville Loyalty League. A committee representing them, in co-operation with Mr. Meserole, established the model store, which is described in a lengthy report issued by the Department of Commerce. It represents an establishment operated by not

**Rubber Protection.**—A booklet "Ace Hard Rubber Protection" for chemical process industries has been issued by the American Hard Rubber Company, New York, Chicago and Akron, Ohio. Ace rubber protection has been developed for practically every phase of corrosive solution handling, including such products as rubber linings, tank cars, rubber pipe, rubber lined steel pipe, rubber lined pumps, rubber utensils and specialties.

**Application of Unit Heating.**—The Skinner Brothers Manufacturing Company, Inc., St. Louis, Mo., has issued a booklet outlining the principle of Airblanket heating and describing specially designed unit heaters with which the system is applied to the heating of industrial and other buildings of large dimensions.

**Circular Saws.**—The Huther Bros. Saw Mfg. Co., Inc., Rochester, N. Y., manufacturers of circular saws, saw-filing equipment and other products, have issued catalogue 49, illustrating and describing its extensive line.

more than four people and could probably be operated by three, having been designed to care for an annual sales volume of about \$50,000, which might be increased to \$75,000.

The retail selling space is 45 by 20 feet, with a back room not accessible to the public. The selling space accommodates display shelving, windows and an island of display tables in addition to the usual store equipment. The report deals comprehensively with the display of foods and accessibility, commodity departments, impulse merchandising, canned foods, treatment of windows, shelving, center of store activity, meat department, need for display, table display, back room order, assembly and delivery, stock and equipment. With a stock of about \$1200, it is assumed that the grocer would be able to secure a sales volume of about \$50,000, with equipment costing about \$3700.

### Baltimore Exports 400 Varieties

More than 400 different products are exported to all parts of the world by 365 of the 2100 manufacturing concerns in Baltimore, as revealed in a directory of Baltimore exporters compiled by the export and import bureau of the Baltimore Association of Commerce. The list of export articles runs from airplanes to whiskbrooms, and includes butter and bathtubs, ice cream cones and cosmetics; iron, copper and steel products, oils and chemicals.

Proposals will be opened August 25 in the office of Jas. A. Wetmore, Acting Supervising Architect of the Treasury Department, Washington, on tenders of a site at High Point, N. C., for a new \$400,000 postoffice.

## Okeechobee Flood Control Work

West Palm Beach, Fla.—As authorized by the Rivers and Harbors bill recently passed by Congress and approved by the President, the Government would expend \$6,612,000 on the Caloosahatchee River and Lake Okeechobee in the Okeechobee Flood Control District, embracing Broward, Collier, Dade, Glades, Henry, Highlands, Lee, Martin, Monroe, Okeechobee, Palm Beach and St. Lucie counties. According to A. W. Young, West Palm Beach, executive secretary, the District is authorized to issue bonds up to \$5,000,000 and sufficient of these will be sold as soon as possible to comply with a provision of the Rivers and Harbors bill naming the District's contribution as \$2,000,000.

The proposed work includes: (a) Improvement of the Caloosahatchee River and Canal from Lake Okeechobee to the Gulf of Mexico by straightening and by dredging a channel to provide a discharge outlet capacity of 2500 cubic feet per second from Lake Okeechobee and a navigation channel at least 6 feet deep and 80 feet wide; (b) improve Taylors Creek by providing a channel 6 feet deep and 60 feet wide from Okeechobee City into Lake Okeechobee; (c) provide levee and navigation channel 6 feet deep and 80 feet wide to follow generally the south shore of the lake; (d) build levee on north shore of lake; (e) provide channel 6 feet deep and 80 feet wide in St. Lucie River, and (f) provide protection works in St. Lucie Canal.

Due to the high level of Lake Okeechobee, caused by an unusually heavy rainfall, the Okeechobee Flood Control District recently appropriated \$40,000 as an emergency fund to repair and strengthen levees around the lake, and contracted with the Arundel Corporation, Baltimore, for the use of the dredge Caloosahatchee. The dredge is working full time in rebuilding low spots and repairing weak sections of the levee.

### \$2,000,000 Norfolk Federal Building

Norfolk, Va.—According to Postmaster C. L. Wright, bids will be opened August 26 in the office of Assistant Secretary of the Treasury Department, Seymour Lowman, Washington, for the sale or donation to the United States Government of a site for a new federal building here, for which Congress appropriated \$2,050,000 for the purchase of the site and erection of the structure. Preliminary specifications call for a building of four or five stories or more, with a floor area of 250,000 square feet.



## TO SHIP ALABAMA COAL THROUGH PENSACOLA

DeBardeleben Coal Corp. to Begin Gulf Coast Service—Service to Benefit Tampa and Mobile.

Pensacola, Fla.—The scheduled shipment of 10,000 tons of Alabama coal per month through Pensacola is a distinct feature of port development and may have a potent bearing on the growth of Southern commerce and shipping and particularly as it applies to the ports of Pensacola and Tampa. The DeBardeleben Coal Corp., Birmingham, Ala., is instrumental in this movement of 120,000 tons of coal annually and indications are that shipments will continue over a 5-year period. It is understood that the Frisco will probably handle the shipments and that the bulk of the coal will be shipped to Tampa, although an effort is now being made to handle Alabama coal in large lots over the Frisco to Texas points. The first shipment to Tampa through this port was made by way of the Frisco on two barges, one of which, carrying more than 3000 tons, was loaded in less than a day.

Local Frisco officials are definite in their statements that the recent lowering of coal freight rates from \$1.80 to \$1.50 from the Birmingham district is chiefly responsible for the movement of Alabama coal through Pensacola. As the same rate on coal applies to the port of Mobile, it is very certain that that port will also get a lot of new coal-handling business. The Frisco has direct trackage into this port and wide expansion is being made in terminal equipment. The road has been handling Alabama coal shipments here recently in larger volume than usual, most of it coming from the DeBardeleben mines.

The Bulk Transportation Corp., a subsidiary of the DeBardeleben organization, will soon inaugurate a Gulf Coast transportation service, making this port its headquarters. The company has purchased the Steamer Bremerton from the United States Shipping Board and will expend \$1,000,000 to remodel the ship and equip it to burn pulverized coal by the Todd unit system of pulverizers, the coal bunkers to be self-feeding. The vessel is 380 feet long, 53 feet beam and 22.5 feet draft, with a displacement of 7500 tons. Plans by Edwin C. Bennett, naval architect and marine engineer of New York, call for moving the propelling machinery from amidships to aft, remodeling and enlarging various sections of the vessel, installing scraper tunnels throughout all cargo holds and diagonal bilge tanks. Self-discharging equipment will be installed to carry cargo from the scraper tunnels to an endless belt running on a 140-foot boom,

which will discharge the cargo at the rate of 1000 tons per hour up to 114 feet from the ship's side, the cargo to be weighed automatically as it passes over the discharging belt. It will be loaded into the vessel through 12 large hatches. The Jahncke Dry Docks, Inc., have contract to remodel the ship which will operate between Mobile and Pensacola and other Gulf ports, taking coal on the outbound trip to points in Texas and Florida and returning with cargoes of sulphur, phosphate rock and citrus fruit. The vessel is expected to handle 500,000 tons of freight annually.

A steamship line to Mexican ports to serve coal buyers in that country has been envisioned by Frisco officials, and it is understood that President James M. Kurn has long had such a service in mind.

## GEORGIA PLANT SHIPPING FROZEN PEACHES

Preservation Methods May Affect Marketing Situation

Monticello, Ga.—The first carload of peaches frozen at the new plant of Polar Products, Inc., was shipped a few days ago to a cold storage warehouse in an Eastern distributing center, there to be held in storage until the fall or winter and then sold for consumption. The company's methods for preserving the fruit is that of refrigeration carried to a high degree of efficiency. Peaches are left on the trees until they are thoroughly ripe and then brought directly to the plant, where they are given a bath in a solution of tanners' alkali for removing the outer skin. They then go to the slicing table, through the center of which runs a conveyor belt carrying trays of peeled fruit. Operators cut each peach in half, remove the seed, slice the fruit and pack it in waxed containers of one pound each. About three ounces of syrup mixed cold are added to each container, which is then sealed by special machines. The containers then go into freezing tunnels in which the temperature may be reduced to 35 degrees below zero if necessary, by the use of carbon dioxide and ammonia circulating through a pipe system. Each tunnel is a separate unit and may be detached from the others, so that each may be loaded and unloaded without disturbing temperatures in the others. A period of two to three hours in the tunnel congeals the fruit in the containers into a solid mass and it remains in this condition until ready for use. Shipped in refrigerator cars with dry ice, the frozen peaches are forwarded to cold storage warehouses for distribution. It is thought the company's methods of preservation and dis-

tribution of fruit may have a marked effect on the Georgia peach market.

Cantaloupes, blackberries, figs, snap beans and sweet corn will be handled in the same way as peaches, but they are still in the experimental stage and no attempt will be made by the company, it is said, to process them on a commercial basis until next season. The plant has a capacity of 15,000 pounds of frozen peaches daily, which is expected to be increased next season. Officers of Polar Products, Inc., include: C. M. Foster, Atlanta, president; Ralph Grayson, vice-president and general manager, and E. F. Malone, plant superintendent.

## A Baltimore Plant Producing Leather and Rubber Mats

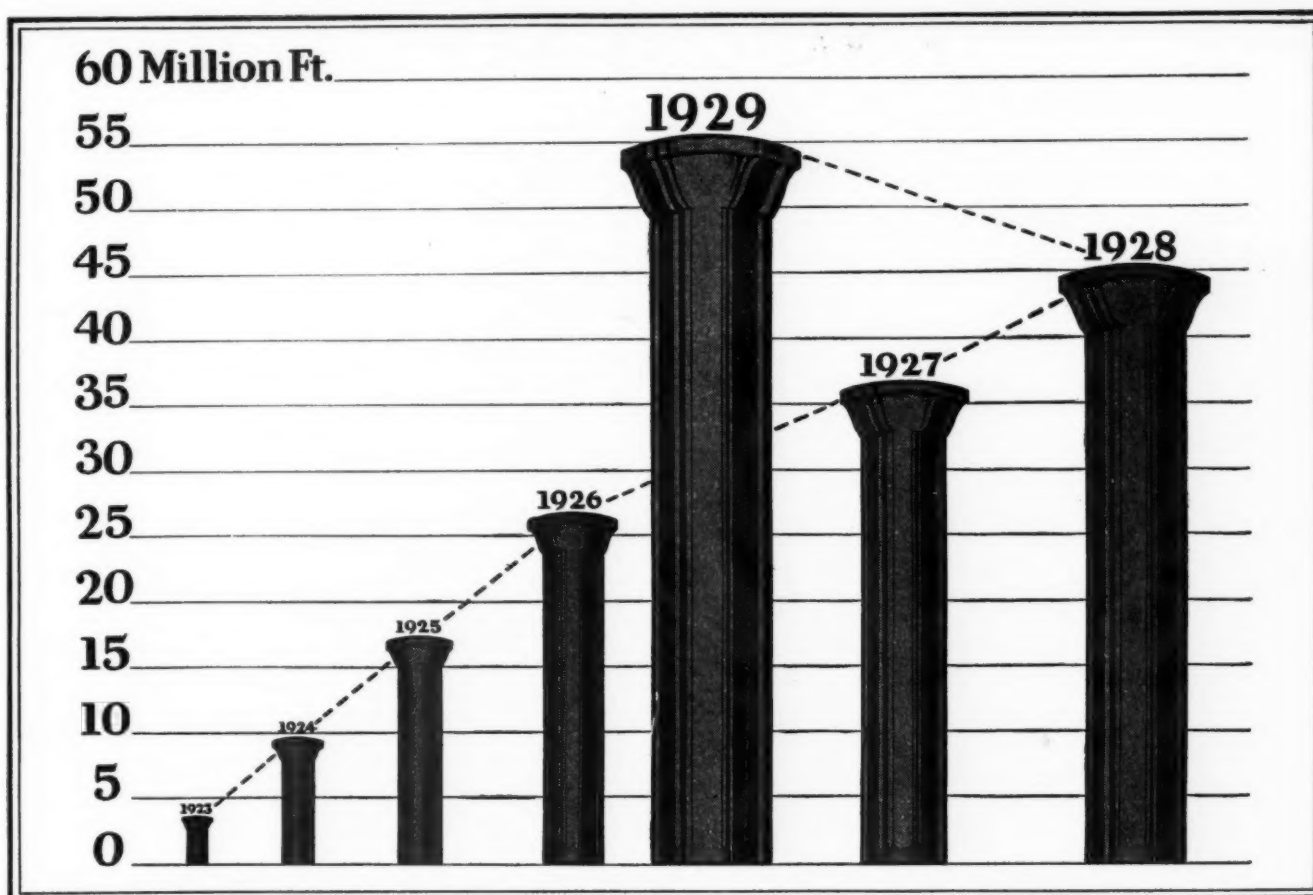
In the plant of the Leathersteel Products Corporation of Baltimore there is offered an illustration of what can be done in utilization of materials that formerly were considered waste in the process of manufacture. The plant recently removed to Baltimore from Boston where it operated for ten years. It makes "leathersteel" and "rubbersteel" mats, for the former using as raw material scrap sole leather purchased from shoe manufacturers. The leathersteel mats are made from fabricated pieces of leather which have been stamped out by high powered stamping machines. Nothing is lost, as the excess from this particular manufacturing operation is ground up for use as fertilizer.

From the stamping machines comes the fabricated material which is then punched out into small uniform pieces forming an integral part of the finished product. These pieces or blanks are assembled on tables specially designed for the purpose, and after the desired shape and size of mat is obtained, Bessemer steel wire is run through the punched holes of the fabricated pieces, linking them together. In the next process the assembled mats are clamped, on other special tables designed for the purpose.

Rubbersteel mats are made in a similar fashion except that the raw material is pure gum rubber instead of sole leather.

Mats and runners installed in some of the leading establishments of New York, as well as in the Baltimore Trust Building, Baltimore's new skyscraper, were made by the Leathersteel corporation, of which John H. Mooney is president.

An architect for a proposed \$750,000 courthouse to be erected at Clarksburg, W. Va., will be selected by the Harrison County Court, Maurice L. Loudin, clerk, on August 27.



## . . . today, more than 10,227 miles of U.S. deLavaud Pipe are in service

In December 1929, more than 54 million feet, or 10,227 miles of deLavaud Pipe—manufactured by the U. S. Pipe and Foundry Company—were in service throughout the country. A mighty fine record of acceptance for this sturdy seven-year-old product!

The first year of its manufacture in the United States, more than three million feet of deLavaud Pipe were put down. Since that time, its popularity has increased by leaps and bounds. The above chart tells the story.

Strength, flexibility and greater carrying capacity are the outstanding reasons for deLavaud Pipe's wide acceptance. DeLavaud Pipe is produced by pouring molten iron into a rapidly revolving metal mold. Centrifugal force holds the metal

against the sides of the mold and drives out impurities with a force many times greater than gravity. The metal mold is encased in a water jacket, the cooling action of which brings about the remarkably fine granular structure of the iron.

Immediately after coming from the machine, every length of deLavaud Pipe is uniformly annealed in a specially constructed furnace where controlled heat eliminates all possibility of casting strains.

DeLavaud Pipe is manufactured in thicknesses and weights in strict accordance with the specifications of the American Water Works Association and the American Gas Association as well as the United States Government Specifications. The new deLavaud Handbook gives complete information. Write for your free copy today.

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# FINANCIAL NEWS

## Bond Issues Proposed

Ala., Mobile—City Comsn. considering issuing \$500,000 bonds for water, sewers and city hospital.

Ark., Arkadelphia—Jail—Clark County votes soon on bonds for over \$50,000 building.

Ark., Bentonville—Airport—City, R. O. Pickens, Mayor, postponed indefinitely proposition to vote on \$20,000 bonds.

Ga., Barnesville—Courthouse—Lamar County voted \$65,000 bonds. 7-10

Ga., Cuthbert—Paving—City votes Aug. 11 on \$20,000 bonds.

Ga., Thomasville—City plans voting on \$135,000 bonds: \$125,000 school; \$10,000 bridges.

Ky., Lawrenceburg—Anderson County Court authorized sale of \$13,000 road funding bonds.

Ky., Owingsville—City Council considering bond issue for water plant.

Ky., Walton—Town, D. H. Vest, Clk., plans voting in Nov. on \$25,000 water bonds.

La., Hico—Hico Community School Dist., Lincoln Parish, voted \$10,000 bonds. 6-26

La., Franklinton—Washington Parish School Bd., D. H. Stringfield, Sec., receives bids Aug. 5 for \$15,000, 5% Mt. Hermon-Sunny Hill School Dist. bonds.

La., Rayville—Richland Parish Police Jury, J. C. Salmon, Sec., receives bids Aug. 19 for \$200,000, \$1,000 denom. Sub-Road Dist. No. 5 bonds; rejected bids; lately noted bids July 15. 7-3

La., Rayville—Richland Parish School Bd., E. E. Keebler, Supt., receives bids Aug. 19 for \$225,000, 5 to 6% bonds. 7-3

Miss., Carthage—Courthouse—Leake County Bd. of Supvrs. called election for Aug. 8 on \$75,000 bonds.

Miss., Jackson—Refunding—State Bond Comsn., H. C. Yawn, State Treas., will sell, Aug. 1, \$850,000, 5½% bonds.

Miss., Jackson—Hinds County Bd. of Supvrs. receives bids Aug. 4 at Raymond for \$100,000, \$1,000 denom. Series D, courthouse and jail bonds; W. W. Downing, Clk., Jackson.

Miss., Jackson—City Council authorized \$96,850, 6% bond issue: \$73,880, special street improvement; \$22,970, street intersection.

Missouri—State Bd. of Fund Commrs., Jefferson City, receives bids Sept. 4 for \$5,000, 4% road bonds; Henry C. Caulfield, Governor.

Mo., Kennett—Hospital—Dunklin County will not vote this year on \$150,000 bonds; lately noted vote Nov. 4. 7-24

N. C., Durham—City, C. B. Alston, Clk., receives bids Aug. 4 for \$700,000, not to exceed 6% bonds: \$200,000, water; \$500,000, street widening, extending and improving.

N. C., Greensboro—Gulfport County Commrs., R. H. Wharton, Clk., receive bids Aug. 4 for \$470,000, not to exceed 6% bonds: \$335,000, road and bridge; \$35,000, school; \$100,000, refunding.

N. C., High Point—School—City, E. M. Knox, Mgr., plans selling within next 6 months \$850,000 bonds.

Okla., Oklahoma City—City voted bonds for City Hall.

Tenn., Bells—Town, L. F. Walker, Mayor, voted \$30,000 bonds for school; defeated \$20,000 sewerage and \$20,000 paving bonds; will sell bonds at once. 6-19

Tex., Amarillo—Courthouse—Potter County Commrs. Court called election for Aug. 30 on \$420,000 bonds.

Tex., Anna—Water—City votes Aug. 16 on \$35,000 bonds.

Tex., Beaumont—City Comsn., Paul H. Millard, Mgr., rejected bids for \$1,100,000 improvement bonds.

Tex., Beaumont—City Comsn., Paul H. Millard, City Engr., considering \$900,000 bond election, toward improving railroad crossings.

Tex., Bryan—School—City plans selling soon, \$100,000 bonds.

Tex., Dallas—City Comsn., J. Waddy Tate, Mayor, receives bids Aug. 11 for \$3,900,000, 4½%, \$1,000 denom. bonds: \$150,000, park improvement; \$450,000, school; \$500,000, sanitary sewer; \$825,000, street revision, under pass; \$25,000, industrial home for boys; \$300,000, street paving; \$1,650,000, storm sewers; John M. Young, City Engr.

Tex., El Paso—Hospital—El Paso County probably vote Sept. 1 on \$600,000 bonds.

Tex., El Paso—Smelter Common School Dist. No. W-3, El Paso County, voted \$50,000 bonds. 6-26

Tex., Angleton—Brazoria County Road Dist. No. 30, voted \$1,300,000 bonds: \$309,000, retire outstanding bonds: \$991,000, highways; Scott Gaines, County Judge. 7-3

Tex., Fredericksburg—Fredericksburg Independent School Dist., C. W. Feuge, Supt. of Schools, receives bids Aug. 15 for \$50,000, 5%, \$500 denom. bonds.

Tex., Gilmer—Gilmer Independent School Dist. voted \$25,000 bonds for auditorium. 6-28

Tex., Harlingen—Airport—City defeated \$200,000 bond issue. 5-29

Tex., Laredo—Laredo School Dist. probably vote early in 1931 on \$350,000 building bonds.

Tex., Lockhart—Caldwell County, receives bids soon for \$250,000 Luling Road Dist. bonds.

Tex., Mathis—Mathis Independent School Dist. voted \$75,000 bonds.

Tex., Marlin—Falls County considering \$95,000, 5½% bond election: \$20,000, New Salem Road Dist. No. 7; \$75,000, Pleasant Grove-Powers Chapel Road Dist. No. 2.

Tex., Middle Water—Middle Water School Dist. voted \$12,000 bonds.

Tex., Nacogdoches—City votes Aug. 12 on \$35,000 refunding bonds.

Tex., New Braunfels—Courthouse, Jail—County, Carl Roeper, Judge, voted \$100,000 bonds. 6-19

Tex., Palestine—Hospital—Anderson County probably vote in fall on \$75,000 to \$150,000 bonds.

Tex., Pecos—Reeves County Commrs. Court, H. N. McKellar, County Judge, receives bids Aug. 11 for \$75,000, 5% Road Dist. No. 1 bonds.

Tex., Port Lavaca—City voted \$30,000 bonds for bay front improvement. 6-19

Tex., Salado—Salado School Dist. voted \$18,000 bonds; Bd. of Education, J. W. Moss, Sec., receives bids soon for \$18,000, 5% bonds.

Tex., Taylor—Sewer—City, reported, voted \$100,000 bonds.

Tex., Waco—La Vega School Dist., McLennan County, reported, voted \$15,000 bonds.

Tex., Welmar—Sewer—City plans bond election.

Va., Bluefield—Water—City Council considering election on \$40,000 bonds for filtering plant.

W. Va., Circleville—Circleville School Dist., Pendleton County votes Aug. 5 on \$15,000 bonds.

W. Va., Paden City—Sewer—City votes Aug. 11 on \$35,000, 5% bonds.

## Bond Issues Sold

Ala., Mobile—Mobile County Bd. of Revenue and Road Commrs., E. C. Doody, Clk., sold \$65,000, 5%, of \$725,000, road and bridge bonds to First National Securities Corp., for \$65,097. 7-10

Ark., Fayetteville—Bd. of Education, Bert Lewis, Chmn., sold \$175,000 6% bonds to City National Bank, Fort Smith, at 107.05. 7-3

Ga., Atlanta—Sewer—City sold \$200,000, 4½% coupon bonds, jointly, to J. H. Hilsman & Co., Inc., and Citizens & Southern Co., both Atlanta, at \$14,880 premium.

La., Tallulah—Road, Bridge—Madison Parish Police Jury, P. O. Benjamin, Sec., sold \$350,000, 5% bonds to Hibernia Securities Co., Inc., New Orleans, at par, accrued interest and \$175 premium. 7-17

Miss., Lexington—Hospital—Holmes County Bd. of Supvrs. sold \$50,000 bonds to Boatmen's National Co., St. Louis, at \$460 premium. 6-26

Mo., Holcomb—Holcomb Consolidated School Dist. No. 1, W. H. Lawson, Sec., sold \$10,000, 6% bonds to Peoples Bank of Holcomb.

N. C., Raleigh—Wake County sold \$400,000 bonds to Mechanics Savings Bank, Raleigh: \$200,000, school; \$100,000, road; \$100,000 general county notes.

Okla., Tecumseh—Tecumseh School Dist. sold \$25,000 5%, Dist. No. 92 bonds to R. J. Edwards, Inc., Oklahoma City, at par. 6-26

Tennessee—Kean, Taylor & Co., New

York, Ames, Emerich & Co., Inc., and C. F. Childs & Co., Inc., both Chicago, offering \$1,171,000 4½ and 4¾% State of Tennessee highway bonds, recently sold.

Tenn., Trenton—Road—Gibson County Court Committee accepted bid of Caldwell & Co., Nashville, at par and accrued interest, for \$500,000, 4½% coupon bonds. 7-10

Tex., Big Spring—City, V. P. Smitham, Mgr., sold \$183,000 of \$265,000, 5% bonds to Brown-Crummer Co., Wichita, Kansas, at par; lately noted rejected bids for bonds. 5-8

Va., Rosslyn—Arlington County School Bd., Fletcher Kemp, County Supt., sold \$51,000, 4½% bonds to H. M. Byllesby & Co., New York, at \$4,131 premium. 7-17

Va., Suffolk—Public Improvement—City, Charles L. Hutchins, Clk., sold \$125,000 4½% bonds to A. B. Leach & Co., New York, at \$124,425 and accrued interest.

## New Financial Corporations

Fla., Miami—City Bank of Miami, 601 Collins Ave., capital \$100,000, opens Aug. 1 with Richardson Sanders, Pres.; C. L. Clements, V.-P. and Cashier.

Fla., St. Petersburg—Nat B. Brophy, St. Petersburg, considering organizing Union Trust Co., capital and surplus, \$200,000; take over First Security Bank, and purchase Ninth St. Bank & Trust Co. Bldg.

La., West Monroe—Industrial Loan Co. of West Monroe, Inc., chartered: C. E. McKenzie, Pres., 313 Harrison St., Monroe; G. A. Schlosser, Sec.

Md., Baltimore—Edward D. Allen & Co., Inc., 1023 Baltimore Trust Bldg., capital \$20,000, chartered; George W. Wagner, 545 Benninghaus Road, Govanstown.

Mo., Clayton—Clayton National Bank, capital \$100,000, chartered; Robert K. Barkley, Pres.; Guy L. Pollard, Cashier.

## Financial Notes

### Baltimore and Ohio Annual Report

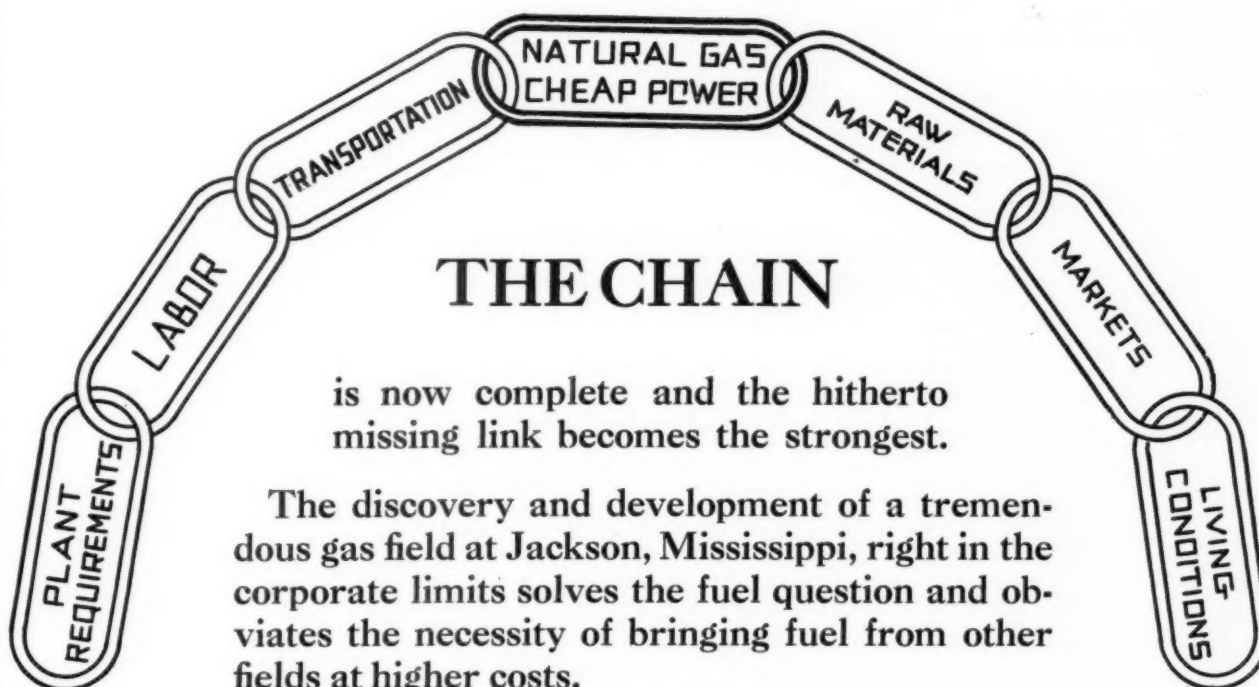
The annual report of the Baltimore and Ohio Railroad Company for the year ended December 31, 1929, shows expenditures for additions, betterments and extensions chargeable to investment in the road of \$17,896,389, and there was credited to the same account for retirement of fixed property \$2,602,529, leaving a net increase in capital invested in the road of \$15,293,860. Expenditures for additions and betterments to equipment for the year amounted to \$14,560,819, while equipment having a book value of \$7,408,929 was retired from service, leaving a net increase in capital investment in equipment of \$7,151,890. Gross revenue from freight traffic was \$205,489,402 in 1929, an increase of \$8,273,958, as compared with 1928, and constituted 83.73 per cent of all revenues. Net railway operating income amounted to \$49,184,109 in 1929, as compared with \$49,387,716 for 1928.

### Allegheny Gas Earnings Increase

For the first five months of 1930 net earnings of the Allegheny Gas Corporation, Charleston, W. Va., in which the Appalachian Gas Corporation, New York, is largely interested, show an increase of 52 per cent over the corresponding period of 1929, according to a statement of the company, the figures being \$201,321, compared with \$132,441. An increase in gross earnings of 39 per cent is noted. The company controls gas rights in 37,000 acres in Ohio and West Virginia and owns more than 170 gas wells, with a daily flow capacity of approximately 40,000,000 cubic feet.

(Continued on page 80)

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*Chamber of Commerce.*



## FINANCIAL NEWS

(Continued from page 78)

### Hercules Powder Surplus \$13,856,176.

A statement of the Hercules Powder Company, Wilmington, Del., for the first six months of 1930 shows a surplus of \$13,856,176 and liquid assets of nearly \$8,000,000, sufficient, in the opinion of officials, to carry out any development projects. Net profits for the six months amounted to \$1,598,468, equivalent to \$1.99 per share on 603,079 shares of no par common stock, after the payment of preferred dividends. Current profits compare with a net for the corresponding period of last year of \$2,035,538, which was equivalent to \$2.74 per share on

598,000 common shares. Gross receipts for the first six months of 1930 amounted to \$14,039,330, as compared with \$17,243,564 for the corresponding period in 1929.

### \$1,525,931 Profit for United States Pipe.

Net profit of the United States Pipe and Foundry Company, Burlington, N. J., for six months ended June 30, 1930, amounted to \$1,525,931, according to a statement of the company, whose total earnings for the period after deducting cost of operating, maintenance of plants, sales and office expenses, taxes, etc., amounted to \$1,632,173.

### Chesapeake and Ohio Report.

Gross revenues of the Chesapeake and Ohio Railway Company for six months ended June 30, 1930, amounted to \$68,052,114, a decrease of \$3,868,660, as compared with the corresponding period of 1929. Net railway operating expenses amounted to \$45,052,219, a decrease of \$3,172,163, while net railway operating income was \$18,325,534, a decrease of \$1,254,078. Net income after all charges was \$14,961,379, a decrease of \$276,188, as compared with the corresponding period of 1929. Operating ratio for the period was 66.2 per cent, a decrease of 0.8 per cent, as compared with the similar period in 1929.

### Tariff Laws and Their Economic Effects

An illuminating chronology of tariff legislation and conditions which followed the enactment of succeeding tariff laws is presented by Mark Ross, of New York, in a letter to the Journal of Commerce, as follows:

"1833—Reduction of duties, followed by a gradual slowing down of business and commerce, ending in the panic of 1837.

"1842—Increase in duties, prosperity and good times ensuing for several years.

"1846—Reduction of duties; imports increased and sluggishness in domestic trade followed.

"1857—General reduction of duties, followed by the panic of 1857 and by the money interests being reduced almost to insolvency by the year 1860.

"1861—Increase of duties, followed by increasing manufactures and commerce and general prosperity.

"1872—Reduction of duties, decreasing business, and a panic in 1873 followed.

"1875—Increase of duties, general improvement materializing in the boom years of 1880-81.

"1883—Modification of existing duties, followed by a severe setback in the years 1884 and 1885.

"1890—Increase of duties, followed by great prosperity lasting until 1892.

"1894—General reduction of duties, followed by great prosperity lasting until 1892.

"1894—General reduction of duties, which had been foreseen in 1892, when Cleveland was elected. Business became retrograde in 1892 and was followed by a panic in 1893 and by general prostration lasting until 1896.

"1897—Increase of duties, which was assured by the election of McKinley, at which time there began an era of general prosperity greater than ever had been known up to that time.

"1909—Modification of existing duties, which proved a serious brake on business and commerce, creating keener competition and reduced margins of profit.

"1913—General reduction of duties, followed by a slowing down of business, which was revived because of large orders for war munitions and food supplies for European countries, but again slowing down after the war and ending in the panic of 1921.

"1922—Increase of duties, followed by

a gradually increasing rate of business activity, developing into the greatest period of prosperity the country has ever known."

Also, Mr. Ross quotes Secretary Mellon's statement to the effect that "the notion that the new Tariff law is going to destroy our foreign trade, expressed in some quarters, is certainly without foundation."

### American Trade in French Colonies

Prediction that "in a few years, the French colonial market will play a big role in the ensemble of American foreign commerce," has been expressed by Dr. Julius Klein, Assistant Secretary of Commerce, and is passed on to the MANUFACTURERS RECORD by Bernhard Ragner, of the International Overseas Exposition of 1931, Paris, France.

Imports and exports for all the French dependencies in 1929 totaled \$1,600,000,000, as compared with \$800,000,000 in 1913. United States exports to those colonies rose from \$7,000,000 in 1913 to \$28,000,000 in 1929, while United States imports from the colonies increased from \$2,000,000 to \$14,000,000 in the same period.

Congress in the recent special session appropriated \$250,000 for United States participation in the Overseas Exposition.

### American Society for Municipal Improvements

In view of great industrial development under way in the South, it is believed that the 36th annual convention of the American Society for Municipal Improvements to be held at the Jefferson Hotel, Richmond, Va., the week of October 13, will be the most important yet held by the society. R. Keith Compton, Richmond, is general chairman of the committee on convention arrangement and James Bolton, Richmond, is local chairman of the exhibit committee. P. L. Brockway, Wichita, Kan., is president of the society.

### Details of \$12,000,000 Pipe Line

Tulsa, Okla.—Plans of the Great Lakes Pipe Line Co., which is being organized by the Barnsdall Corp., of this city, and the Continental Oil Co., of Ponca City, Okla., to build a 1500-mile gasoline pipe line system, involve the construction of a line from refineries in the Mid-continent area to Kansas City and Des Moines, with branch lines to Chicago, Milwaukee, Minneapolis and Omaha. Harry Moreland is the vice-president of the new company and Frank E. Richardson, chief engineer, both of Ponca City. Ralph E. Sleppy, Tulsa, is the superintendent of pipe lines. The new line will have a daily capacity of 30,000 barrels and is estimated to cost \$12,000,000.

### May Acquire St. Louis Southwestern

St. Louis, Mo.—Formal application has been made by the Southern Pacific Co. to the Interstate Commerce Commission for authority to take over the lines of the St. Louis Southwestern Railway Co.

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### Gas Line to Serve Steam-Electric Generating Plant Finished

The Texas Gas Utilities Co., a subsidiary of Appalachian Gas Corp., recently completed a high-pressure natural gas pipe line to deliver gas to the electric generating station of Central Power and Light Co., located on Devil's River, Texas. Work on the new line was started early in May, resulting in the unusual achievement in a utility of the production of revenue within 60 days of the commencement of construction operations.

The new line, completion of which marks the final stage of the company's initial pipe line construction project, extends from the Eagle Pass natural gas fields of Texas, to Devil's River, and is unique in several respects, including the use for the first time of steel pipe in 60-foot sections, resulting in a considerable reduction in welding costs. Upwards of 10,000,000 pounds of steel pipe were used, supplied by A. O. Smith Corp., Milwaukee, Wis., and delivered in 212 carloads making up eight special trains.

For the first 47 miles the line is absolutely straight, a favorable condition resulting in minimum friction losses. There are but two gentle curves in the remainder of the line. The pipe was welded by the electric arc process, and for most of the distance is laid about two feet underground. In some places, when crossing hills, the pipe is as much as 18 feet below the surface. During the course of construction the company built a private road paralleling the pipeline, as well as a private telephone line. N. A. Saigh, San Antonio, had the general contract.

Through the new line Texas Gas Utilities Co., besides supplying on long-term contract the entire fuel requirements of Central Power & Light Co., will also serve natural gas for industrial and domestic purposes in Del Rio and other communities in Maverick, Kinney and Valverde counties. The line traverses the new \$6,000,000 Maverick County irrigation project, which, when completed, will open up additional markets for natural gas for use as fuel for irrigation pumps, etc.

### Builds Welded Steel Plant

Oklahoma City, Okla.—The new factory here of the American Tank and Equipment Corp. has just been completed and put in operation, having been built in six weeks with half of that period required for welding the steel framework, a feature of construction which makes the plant an outstanding one in this section. Fabrication of the spans was done in the Kansas City plant

of the Black, Sivals & Bryson Manufacturing Co., Bartlesville, Okla., parent organization of the American Tank and Equipment Corp. The welded steel sections were shipped from Kansas City to Oklahoma City and the large units welded into place during the construction of the framework. This factory is said to be the largest of its kind west of Chicago. A big heat treating furnace is being erected adjacent to the factory building which will be used to anneal or heat treat heavy welded vessels in order to equalize stresses and assure full strength of the metal. The entire plant was designed and supervised by the engineering staff of the Black, Sivals & Bryson organizations and special equipment and devices have been produced and installed for operating efficiency. Products of the plant will include a patented oil and gas separator, welded oil field tanks, welded bulk storage and filling station tanks, welded refinery equipment, welded piping, building caissons, bridge piers, packing house vats, condenser boxes, pressure drums, smoke stacks and other products. The company recently changed its name from the American Tank Company to its present title.

### Southern Desk Company Gets Big Order

Durham, N. C.—An order has been placed by Duke University with the Southern Desk Co., Hickory, N. C., for 12 carloads of equipment. The shipment will include laboratory equipment for a physics building, opera chairs for three small auditoriums, operating tables, dissecting tables, chairs and cafeteria equipment for the hospital and recitation seats for other buildings.

### \$500,000 Building Nearing Completion

Nashville, Tenn.—The \$500,000 theater and commercial building being erected here by the American Trust Co. for the Publix Theatres Corp., New York, is about 75 per cent complete, according to the Kaiser-Ducett Co., Joliet, Ill., general contractor. John Ebersson is the architect and Ruderman & Severud, engineers, both of New York. In addition to the general contract, other contracts and sub-contracts were awarded as follows:

**Heating and plumbing**—John Bouchard & Sons Co., Nashville, Tenn.

**Electrical work**—E. P. Allison Electric Co., St. Louis, Mo.

**Lathing and plastering**—Architectural Decorating Company, Chicago, Ill.

**Roofing and sheet metal**—L. T. Herbert & Son, Nashville

**Gypsum roof**—Lathrop-Hoge Gypsum Construction Co., Cincinnati, Ohio.

### INCREASING CAPACITY OF PIPELINE SYSTEM

#### Oklahoma Company Carrying Out Big Expansion Program

Bartlesville, Okla.—An expansion program which will largely increase the capacity of the pipe line system of the Cities Service Gas Co., the natural gas subsidiary of the Empire Companies of this city, has been announced here. The program will involve the addition of 24 new compressor station units of 1000 horsepower each to stations in Oklahoma, Texas and Kansas. New stations at Blackwell and Drumright in Oklahoma; an extension of the Oklahoma City 20-inch line from Dilworth, Okla., to a point south of Wichita; improvement of the Dilworth-Cambridge 16-inch line for high pressure service, and the construction of 15 miles of 16-inch pipe line from Independence, Kans., to Joplin, Mo., are included in the program. An important phase of the program will be the addition of 15 compressor units to stations transporting gas through a 20-inch line from the Texas Panhandle to Wichita and adjacent territory. Two units each are being added to stations at Pampa and Higgins, Tex.; Mooreland, Okla., and at Corwin, Matfield Green and Ottawa, Kans., and three units are being added to the station at Wichita. It is estimated that the added units will increase the daily capacity of the Texas line from 100,000,000 cubic feet to 125,000,000 cubic feet.

Construction is in progress on a 32-mile extension of the Oklahoma City 20-inch line from Dilworth, Okla., to a point a few miles south of Wichita, where it will connect the Oklahoma City field with the company's distribution system serving northern markets. A new compressor station at Blackwell involves 5 units of 1000 horsepower each and additional units may be added later. A 4000-horsepower station under way at Drumright will increase the capacity of a 16-inch line from Seminole, Hughes and Okfuskee counties, Oklahoma, connecting with the Texas line at Ottawa. A 16-inch Dilworth-Cambridge line is being revamped and improvements are being made on the Riverton, Topeka and Quapaw lines, while the Independence-Joplin and Lawrence-Topeka lines were recently completed. The company expects to complete in August an 8-inch line from Lyons, Kans., to Superior, Neb., a distance of 116 miles, including approximately 123 miles of laterals, while construction is under way on a line from Ottawa to Sedalia, Mo., a distance of 110 miles. Contracts are said to have been awarded.

### Increasing Pump Capacity on Oil Line

Lima, Okla.—The Texas-Empire Co., Bartlesville, Okla., is building 8 new pump stations to supplement 11 stations now in operation along its trunk line from Lima to the Chicago refinery territory, construction being about 70 per cent complete. The line has been in operation since last October and is now delivering 50,000 barrels of crude oil daily to Lawrenceville, Stoy, Lockport and Lamont, Illinois, and to East Chicago, Ind. Upon completion of the new stations about November 1, the system is expected to deliver approximately 74,000 barrels daily. The stations are being built at Sand Springs, Okla.; Chetopa, Kans.; Sheldon, Cole Camp and Mexico, Mo., and at Baylis, Broadwell and Fairbury, Ill. Equipment in-

cludes 18 No. 8 four-stage centrifugal oil line pumps being manufactured by the Worthington Pump and Machinery Corp., New York, designed for a maximum capacity of 94,000 barrels daily. The stations at Sand Springs, Chetopa, Cole Camp, Mexico, Baylis and Broadwell will each be equipped with three electrically operated centrifugal units, while the new station at Sheldon will be equipped with three reciprocating pumps operated by Diesel motors and the station at Fairbury with electrically operated reciprocating pumps. Five reciprocating pumps are being manufactured by Goulds Pumps, Inc., Seneca Falls, N. Y., and three Diesel units by the McIntosh & Seymour Corporation, Auburn, N. Y. Electric motors, control boards, instrument boards and other electrical equipment are being furnished by the Westinghouse Electric & Manufacturing Co., East Pittsburgh, Pa.

### \$2,500,000 Water Project

Brownwood, Tex.—To facilitate the inspection of contractors who desire to bid on construction of a 1600-foot dam in connection with the proposed \$2,500,000 city water and irrigation project of Brown County Water Improvement District No. 1, test holes are being drilled preparatory to inviting bids, according to D. W. Ross, engineer in charge. The site of the dam has been secured. Construction will involve 75,000 cubic yards of earth and 10,000 cubic yards of concrete. The dam, of the full or semi-hydraulic fill type, will be located about 8 miles north of Brownwood. It will create a lake to extend up Jim Ned Creek and Pecan Bayou and cover an area of about 7000 acres at spillway level, or about 125,000 acre feet, with a shore line of 82 miles. A road is being built from the highway to the dam site.



## PROPOSALS

BOND ISSUES BUILDINGS PAVING GOOD ROADS



Bids close August 5, 1930.

U. S. Engineer Office, 300 Custom House, Baltimore, Md. Sealed proposals will be received here until 3 P. M., Eastern Standard Time, August 5, 1930, and then publicly opened, for dredging approximately 1,174,341 cubic yards of material to a minimum depth of 37 feet over a width of 300 feet in Cut-off and a part of the Brewerton sections of channel leading to Baltimore, Maryland.

Bids close August 15, 1930.

U. S. Engineer Office, Wilmington, N. C. Sealed bids, in duplicate, will be received until 12 o'clock noon, August 15, 1930, and then publicly opened, for furnishing all labor and materials and performing all work for dredging approximately 6,363,020 cubic yards of material in northeast portion of Section III of the Intracoastal Waterway from Beaufort to Cape Fear River, N. C. Further information upon application.

Bids close August 21, 1930.

U. S. Engineer Office, Mobile, Ala.—Sealed bids, in duplicate, subject to the conditions contained in the specifications, will be received until 11 o'clock A. M. August 21, 1930, and then publicly opened, for furnishing all labor and materials and performing all work of maintenance dredging, involving the removal of approximately 3,600,000 cubic yards of material, including over-depth from Gulfport Ship Channel and Anchorage Basin, Miss. Further information on application.

Bids close August 22, 1930.

U. S. Engineer Office, Mobile, Ala.—Sealed bids, in duplicate, subject to the conditions contained in the specifications, will be received until 11 o'clock A. M., August 22, 1930, and then publicly opened, for furnishing all labor and materials and performing all work of maintenance dredging in the Mississippi Sound Channel at Pascagoula, Miss., to a depth of 17 feet and a width of 150 feet, involving the removal of approximately 1,500,000 cubic yards of material, including over-depth. Further information on application.

### GENERAL INFORMATION

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The rate is the same for both publications—35 cents a line each insertion.

Bids close August 11, 1930.

U. S. Engineer Office, Mobile, Ala. Sealed bids, in duplicate, subject to the conditions contained in the specifications, will be received until 11 o'clock A. M., August 11, 1930, and then publicly opened, for furnishing all labor and materials and performing all work of dredging approximately 6,000,000 cubic yards of material in the Mobile Bay Channel. Further information on application.

Bids close August 15, 1930.

U. S. Engineer Office, Wilmington, N. C. Sealed bids, in duplicate, will be received until 12 o'clock noon, August 15, 1930, and then publicly opened, for furnishing all labor and materials and for performing all work for dredging approximately 5,568,975 cubic yards of material in southwest portion of Section III of the Intracoastal Waterway from Beaufort to Cape Fear River, N. C. Further information upon application.

Bids close August 15, 1930.

War Department, Office Constructing Quartermaster, Fort Bragg, N. C. Sealed proposals in triplicate will be received until 2 P. M., August 15, 1930, and then publicly opened, for the construction of concrete streets, combination curb and gutter and sidewalks at Fort Bragg, North Carolina. \$25.00 deposit, certified check, payable to Treasurer of United States, required for plans and specifications. Further information on request.

Bids close August 19, 1930.

SEALED BIDS, in triplicate, subject to the conditions contained herein, will be received by the U. S. Veterans' Bureau, Room 764, Arlington Building, Washington, D. C., until 11 A. M., August 19, 1930, and then publicly opened, for furnishing all labor and materials and performing all work required for constructing and finishing complete at U. S. VETERANS' HOSPITAL, SOMERSET HILLS, NEW JERSEY, BUILDINGS AND UTILITIES, including roads, walks, grading and drainage. This work will include excavating, reinforced concrete construction, hollow tile, brick work, architectural terra cotta, marble work, floor and wall tile, rubber tile, and linoleum floors, iron work, steel sash, steel stairs with slate treads, steel clothing bins, slate, metal and built-up roofing, roof ventilators, metal lathing, plastering, carpentry, metal weatherstrips, insect screens, window shades, painting, glazing, hardware, plumbing, heating, electrical work, electric elevator and outside sewer, water, steam and electric distribution systems. SEPARATE BIDS will be received for (a) General Construction (including the plumbing, heating and electrical work); (b) Electric Elevator, all as set forth on bid form. Bids will be considered only from individuals, firms or corporations possessing satisfactory financial and technical ability, equipment and organization to insure speedy completion of the contract, and in making awards the records of bidders for expedition and satisfactory performance on contracts of similar character and magnitude will be carefully considered. At the discretion of the Director, drawings and specifications may be obtained upon application to the Construction Division, Room 764, Arlington Building, Washington, D. C. Deposit with application of a check or postal money order for \$50.00, payable to the TREASURER OF THE UNITED STATES, is required as security for safe return of the drawings and specifications within ten days after date of opening bids. FRANK T. HINES, Director. July 18, 1930.



Bids close August 15, 1930.

War Department, Office Constructing Quartermaster, Fort Bragg, N. C. Sealed proposals in triplicate will be received until 10 A. M., August 15, 1930, and then publicly opened, for the construction and completion of sixteen (16) Non-commissioned Officers', eight (8) Field Officers', and Twenty-six (26) Company Officers' quarters at Fort Bragg, North Carolina. \$25.00 deposit certified check, payable to Treasurer of United States, required for plans and specifications. Further information on request.

Bids close August 5, 1930.

### Maryland Highway Work

DEPARTMENT OF PUBLIC WORKS  
STATE OF MARYLAND  
STATE ROADS COMMISSION

#### NOTICE TO CONTRACTORS

Baltimore, Md.

SEALED PROPOSALS for building ten sections of State Highway as follows:

- Anne Arundel County, Cont. No. AA-97-711—One section of State Highway along the Camp Meade Road, from Wellham Crossroads to the Glen Burnie-Dorsey road, a distance of 1.56 miles (alternate bids for resurfacing with hot and cold bituminous mixtures).
- Baltimore County, Cont. No. B-155-411—One section of State Highway along the Falls Road from Bare Hills to Seminary Avenue, a distance of 3.8 miles (concrete shoulders).
- Baltimore County, Cont. No. B-156-411—One section of State Highway along the North Point Road from the Baltimore City Line to the Battle Monument, a distance of 3.97 miles (concrete shoulders).
- Cecil County, Cont. No. Ce-91-211—One section of State Highway along the Rising Sun-Fair Hill Road from the Sylmar Road toward Blueball, a distance of 3.63 miles (concrete shoulders).
- Dorchester County, Cont. No. D-64-14—One section of State Highway along the Blackwater-Church Creek Road from the end of Cont. No. D-50 to the beginning of Cont. No. D-61, a distance of 1.8 miles (concrete).
- Frederick County, Cont. No. F-153-54—One section of State Highway along the Rocky Ridge-Detour Road from the end of Cont. No. F-128 to Detour, a distance of 1.4 miles (concrete).
- Harford County, Cont. No. H-93-44—One section of State Highway from Baker's Corner at Aberdeen toward Worthington's Corner, a distance of 1.0 mile (penetration macadam resurfacing).
- Howard County, Cont. No. Ho-69-38—One section of State Highway along the proposed relocation of the Baltimore-Washington Boulevard, northwest of Elkridge, a distance of 1.5 miles (Concrete).
- Howard County, Cont. No. Ho-81-511—One section of State Highway along the Clarksville Pike, between Eltoak and Snell's Bridge, a distance of 2.08 miles (alternate bids for resurfacing with hot and cold bituminous mixtures).
- Washington County, Cont. No. W-78-64—One section of State Highway from Sharpsburg to Burnside Bridge, a distance of 1.04 miles (penetration macadam resurfacing).

Will be received by the State Roads Commission at its offices, Federal Reserve Bank Building, Calvert and Lexington Streets, Baltimore, Maryland, until 12 M., E. S. T., on the 5th day of August, 1930, at which time and place they will be publicly opened and read.

Bids must be made upon the blank proposal form which, with specifications and plans, will be furnished by the Commission upon application and cash payment of \$1.00, as hereafter no charges will be permitted.

No bids will be received unless accompanied by a certified check for the sum of Five Hundred (\$500) Dollars, payable to the State Roads Commission.

The successful bidder will be required to give bond and comply with the Acts of the General Assembly of Maryland respecting contracts.

The Commission reserves the right to reject any and all bids.

BY ORDER of the State Roads Commission this 22nd day of July, 1930.

G. CLINTON UHL, Chairman.

L. H. STEUART, Secretary.

Bids close August 7, 1930.

### Bridge

DEPARTMENT OF PUBLIC WORKS  
STATE OF MARYLAND  
STATE ROADS COMMISSION

#### NOTICE TO CONTRACTORS

Baltimore, Md.

SEALED PROPOSALS for building bridge as follows:

Prince George's County, Contract No. P-119-33—Substructure, concrete floor, approaches, etc., for single 101-foot span bridge over the tracks of the Pennsylvania Railroad Company at Lanham on the Defense Highway.

Will be received by the State Roads Commission at its offices, Federal Reserve Bank Building, Calvert and Lexington Streets, Baltimore, Maryland, until 12 M., E. S. T., on the 7th day of August, 1930, at which time and place they will be publicly opened and read.

Bids must be made upon the blank proposal form which, with specifications and plans, will be furnished by the Commission upon application and cash payment of \$1.00, as hereafter no charges will be permitted.

No bids will be received unless accompanied by a certified check for the sum of Five Hundred (\$500) Dollars, payable to the State Roads Commission.

The successful bidder will be required to give bond and comply with the Acts of the General Assembly of Maryland respecting contracts.

The Commission reserves the right to reject any and all bids.

BY ORDER of the State Roads Commission this 24th day of July, 1930.

G. CLINTON UHL, Chairman.

L. H. STEUART, Secretary.

Bids close August 20, 1930.

### Waterworks Improvements

NOTICE TO CONTRACTORS  
EAST JEFFERSON WATERWORKS  
DISTRICT NO. 1.

Kenner, Louisiana.

SEALED PROPOSALS will be received at the office of the East Jefferson Waterworks District No. 1, Kenner, Louisiana, by the Board of Water Commissioners of the District up to 4 P. M. on Wednesday, the 20th day of August, 1930, and will be at that time opened, read and tabulated.

The work consists of furnishing materials and laying Water Mains and the necessary appurtenances which enter into East Jefferson Waterworks District No. 1, for which bonds have been voted and sold.

Plans, Specifications and Form of Proposal may be seen and examined at the office of the Secretary at Kenner, Louisiana, or may be obtained from Henry A. Mentz & Company, Inc., Engineers, Hammond, Louisiana. A charge of \$15.00 will be made for the Specifications and Plans.

All bids must be made on proposal blanks furnished by the Engineers. No alternative proposal made by a contractor will be considered.

The contractor will be paid on monthly Engineers' estimates amounting to 80% of the work done and materials furnished in the previous month.

All proposals must be accompanied by a certified check for Ten Per Cent (10%) of amount of bid, drawn on a bank doing business in the Parish of Jefferson or the City of New Orleans, and made payable unconditionally to Hon. Joseph W. Hecker, President of the East Jefferson Waterworks District No. 1.

The successful bidders will be required to furnish a performance and guarantee bond amounting to One Hundred Per Cent (100%) of the contract price.

The right is reserved to reject any and/or all bids, or to award such contract as in the opinion of the Board will best serve the interests of the taxpayers of the District.

EAST JEFFERSON WATERWORKS

DISTRICT NO. 1.

KENNER, LOUISIANA.

JOSEPH W. HECKER,

President.

CHARLES A. BOUTALL,

Secretary.

HENRY A. MENTZ & COMPANY,

Consulting Engineers,

Hammond, Louisiana.

PAYNE ENGINEERING COMPANY,

Associate Engineers,

Gretna, Louisiana.

Bids close August 20, 1930.

### Waterworks Improvements

NOTICE TO CONTRACTORS  
EAST JEFFERSON WATERWORKS  
DIST. NO. 1

Kenner, Louisiana.

SEALED PROPOSALS will be received at the office of the East Jefferson Waterworks District No. 1, Kenner, Louisiana, by the Board of Commissioners of this District up to 4 P. M. on Wednesday, the 20th day of August, 1930, and will at that time be opened, read and tabulated.

The work consists of furnishing F. O. B. cars or barges, at the District's wharf or docks, Cast Iron Water Main and Special Fittings, Hydrants, Valves and Boxes, which enter into Waterworks District No. 1, for which bonds have been voted and sold.

Plans, Specifications and Form of Proposal may be seen and examined at the office of the Secretary at Kenner, Louisiana, or may be obtained from Henry A. Mentz & Company, Inc., Engineers, Hammond, Louisiana. A charge of \$15.00 will be made for the Specifications and Plans.

All bids must be made on proposal blanks furnished by the Engineers. No alternative proposal made by a contractor will be considered.

The contractor will be paid on monthly Engineers' estimates amounting to 80% of materials furnished in the previous month.

All proposals must be accompanied by a certified check for Ten Per Cent (10%) of amount of bid, drawn on a bank doing business in the Parish of Jefferson or the City of New Orleans, and made payable unconditionally to Hon. Joseph W. Hecker, President of the East Jefferson Waterworks District No. 1.

The successful bidders will be required to furnish a performance and guarantee bond amounting to Fifty Per cent (50%) of the contract price.

The right is reserved to reject any and/or all bids, or to award such contract as in the opinion of the Board will best serve the interests of the taxpayers of the District.

EAST JEFFERSON WATERWORKS

DISTRICT NO. 1.

KENNER, LOUISIANA.

JOSEPH W. HECKER,

President.

CHARLES A. BOUTALL,

Secretary.

HENRY A. MENTZ & COMPANY,

Consulting Engineers,

Hammond, Louisiana.

PAYNE ENGINEERING COMPANY,

Associate Engineers,

Gretna, Louisiana.

Bids close August 6, 1930.

### Nurses' Home

DEPARTMENT OF PUBLIC WORKS  
BUREAU OF BUILDINGS

Baltimore, Md., July 16, 1930.

Sealed proposals, in duplicate, endorsed: "PROPOSAL FOR ALL LABOR AND MATERIALS REQUIRED IN THE ERECTION OF THE NURSES' HOME, BALTIMORE CITY HOSPITALS, 4940 EASTERN AVENUE," and addressed to the Board of Awards of Baltimore City, will be received by Mr. A. M. Denhard, City Register, at his office in the City Hall, Baltimore, Md., on or before 11 A. M. (Eastern Standard Time) Wednesday, August 6, 1930.

Each bid must be accompanied by a certified check of the bidder, drawn on some clearing-house bank, in the amount of FIFTY THOUSAND DOLLARS (\$15,000.00) and made payable to the Mayor and City Council of Baltimore.

The successful bidder will be required to give bond and comply with the City Charter respecting contracts.

Drawings and specifications may be obtained at the office of the Bureau of Buildings on the first floor of the Municipal Office Building, on and after July 18, 1930, on deposit of a check in the amount of \$100.00, made payable to the Mayor and City Council of Baltimore, said check to be refunded on the return of complete drawings and specifications to the Bureau of Buildings.

The Board of Awards reserves the right to reject any or all bids.

W. G. HAMMOND,

Buildings Engineer.

# CLASSIFIED OPPORTUNITIES

## MINERAL AND TIMBER LANDS, WATER POWER, MISCELLANEOUS PROPERTIES

FOR SALE—5000 acres oil and gas leases on structure, settled production. Royalties and mineral rights on large tract. Complete data furnished on request.

W. P. HARLEY, Bowling Green, Ky.

FOR SALE—100,000 acres Timber, Coal, Agricultural land on famous Cumberland Plateau, Marion County, Tennessee; 65c per acre. Write A. W. JOHNSON, 513 Hall Building, Kansas City, Mo.

FOR SALE—Large water power at sacrifice to quick buyer. Beautiful 170-acre lake. Factory buildings, warehouse, large yard. For further particulars address CHAS. VAUGHN (Owner), Glen Rock, Pa.

## TIMBER AND TIMBER LAND

LARGE ACREAGE second-growth pine timber near Jacksonville, Florida, for sale at bargain price. Other large tracts in Southeast Georgia. The James D. Lacey Company, Barnett Bldg., Jacksonville, Fla.

## COAL LANDS AND MINES

50,000 ACRES COAL LANDS, \$5.00 per acre. East Tennessee. On railroad; good markets in North and South, with favorable freight rates. Excellent steam, domestic, by-product coals, 3 to 10 ft. seams. Producing mines on property withheld from sales. Excellent opportunity for safe, long time investment, operating or leasing. Address No. 8090, care Manufacturers Record.

## FARM, FRUIT AND TRUCK LANDS

### FLORIDA

#### FLORIDA BARGAIN!

Now is the time to buy in Florida 640 acres of first-class truck land at \$12.50 per acre.

P. JOHN HART REALTY CORP.,  
P. O. Arcade,  
Fort Myers, Fla.

### LOUISIANA

ST. CHARLES PARISH, LOUISIANA, offers opportunities in cattle ranches, agricultural and industrial sites. St. Charles Bank & Trust Co., Sellers, La.

### TEXAS

YOUR CHANCE TO DOUBLE YOUR MONEY. Have for sale one entire section of land containing 640 acres in the heart of Brewster County, Texas, carrying 100% all mineral and oil rights, General Warranty Title, can be had now at \$16.00 per acre; purchaser can retail in 5-acre tracts at \$40 per acre; has been done in adjoining tracts same county. Blueprint for retailing in 5-acre tracts already just put on record at Alpine, county seat. Owner forced to sell quick. Write or wire B. K. THOMAS, 301 State and City Bank Building, Roanoke, Va.

### VIRGINIA

APPLE ORCHARD 15,000 TREES—Best commercial varieties, 12 years old; fine condition. Many excellent buildings and big equipment machinery and stock. Sacrificed to settle estate for \$40,000; easy terms. WILDER & Co., Charlottesville, Virginia.

## SOUTH ISLES PLANTATION

830 acres, 450 acres farming and pasture land, about 300 acres fertile river bottoms, balance woodland and timber. Large, attractive mansion in grove of several acres handsome box wood, shrubbery, flowers and many varieties of trees. Excellent stock barn, tenant house, hog sheds and other outbuildings. Near Lynchburg in good community. Price \$44,000. Full details and illustrated catalogue of other attractive places upon request.  
GEO. V. VENABLE & CO., Lynchburg, Va.

## SOUTHERN ESTATE

FOR SALE—Beautiful Colonial Estate; ideal winter and all year round climate. MRS. ISABELLE R. BELL,  
"Bellemont Park,"  
Mount Olive, North Carolina.

## SOUTHERN HOMES

### SOUTHERN HOMES

in the best city in the Carolinas, \$10,000 to \$75,000, according to size and location.

F. C. ABBOTT & CO.,  
Charlotte, N. C.  
32 years in Charlotte Real Estate.

OVER 500 ACRES, spring, brook, log cabin, many long leaf pines. Estate preserve. Fine fish pond "full of fish." Low acreage price. G. F. ARCHER, Aiken, S. C.

## BUSINESS OPPORTUNITIES

### CYPRESS AND WEALTH.

The Putnam Lumber Company have moved their cypress sawmill to Shamrock, leaving here in Jacksonville a complete planing mill, dry shed capable of storing a million feet, and ten acres of land for storing green cypress, also office building. This plant is being operated during July. Hundreds of small cypress mills operating in Florida have practically no market for their 4/4, 6/4 and 8/4 stock. These boards can be bought very cheap, stored and sold in competition with any mill owning its own timber; in fact, small mills with no large timber overhead can produce and sell stock at less than big mills' cost.

Owner will lease this storage yard and complete plant on basis of lessee paying 3% of the f.o.b. mill sale price of lumber on the first 300,000 feet per month, and 1% for all over this quantity, payable after the lumber is dried, delivered and cash is received from customer. Owner will further agree to take half the rent in remilling work to be done by this plant. This gets away from overhead. There are no fixed charges.

Compare the number of people you know who have made money out of cypress with those who have lost in other operations. Here is an opportunity where your capital is always liquid. You may cancel this lease upon 90 days' notice, or lease and operate for five years or longer. Under such favorable terms property would only be leased to responsible parties having sufficient capital to make a success of the operation. Address MORGAN V. GRESS, Owner, Jacksonville, Florida.

LONG TERM LOANS, large amounts, made on industrial, mercantile, sawmill properties. THOS. W. GILMER, Attorney, Bay Minette, Alabama.

RICH GOLD PLACER. Wants capitalist to finance to work.

W. A. OWENBY,  
Mineral Bluff, Ga.

MANUFACTURERS—Write for our FREE Classification Sheets of inventions for sale, covering 135 main subjects, and in one or more of which you will doubtless be interested. ADAM FISHER MFG. CO., 578 Enright, St. Louis, Mo.

SEASONED EXECUTIVE, graduate engineer, age 39, with outstanding accomplishments in business, engineering and finance, will invest with services in progressive, growing company. Location and salary secondary to opportunity. Address No. 9038, care of Manufacturers Record, Baltimore.

## INDUSTRIAL SURVEYS

ENGINEERING REPORTS on resources of cities and towns. Recommendations for industrial development and zoning made by specialists in locating industries.

TECHNICAL SERVICE CO.,  
Woolworth Building New York City

## DEVELOPING AND ENGINEERING

### ORGANIZING—DEVELOPING—ENGINEERING

Engineering firm, widely experienced in investigating, organizing, developing, designing and supervising construction, solicit correspondence regarding development or extension of meritorious projects and existing industries, power plants and utilities. Address No. 8016, care Manufacturers Record.

## FINANCIAL

### MONEY WANTED

6, 7 and 8% Mortgage Loans on City, Town or Country property. Southern Land & Investment Co., Baton Rouge, Louisiana.

## BUSINESS AND INVESTMENT PROPERTIES

11,000 ACRE tract prospective oil and gas land in heart of Winter Garden District, Dimmit County, Texas. Soil adapted to culture, commercially, of dates, oranges and other citrus fruits; at investment prices. If interested, Owner, Box 656, Houston, Tex.

## INDUSTRIES WANTED

WELL-LOCATED Southern town wants industry. Will furnish plant, moving expenses, additional capital and other concessions.

INDUSTRIAL SERVICE CORP.,  
Asheville, N. C.

## INDUSTRIES WANTED

COMPLETE WOODWORKING PLANT, suitable for furniture or other wood articles. Dry kiln, slide track, with ample trained labor available. Can be bought for less than one-half reproduction value. First Securities Company, Chattanooga, Tenn.

### FOR SALE

Home Industry Iron Works, consisting of Foundry, Machine, Boiler and Blacksmith Shops and Real Estate. Located at Mobile, Ala., on the Louisville & Nashville Railroad, near river front. Plant is one of the best in Mobile. Will sell at a bargain. Address MRS. A. KLING, 254 North Jackson Street, Mobile, Ala.

## INDUSTRIAL PLANTS

### FOR SALE AT A BARGAIN

One story and basement brick factory. Factory has 15,342 square feet floor space besides the basement, one shed 60x96 feet and office building. This is located on the Belt Line Railroad in Cairo, Ill. Three acres of ground with power, consisting of 150 horsepower boiler, 14x30 Corliss Engine and Allis Chalmers Generator switchboard, dust collector with shafting, etc. All in first class condition and can be put in operation at once.

TURNER, DAY & WOOLWORTH  
HANDLE CO.,  
CHAS. D. GATES, President,  
Louisville, Ky.

## FACTORY SITES

### FACTORY SITE ON DEEP WATER

If you are seeking an ideal deep water industrial location in Baltimore, Maryland, on one of the finest harbors in the world, see advertisement on page 94, July 17th issue of the Manufacturers Record.

W. S. CAHILL CO.,  
Key Highway and Webster Street,  
Baltimore, Md.



## FACTORY SITES

## FREE FACTORY SITES

Ten to twenty acres level land fronting on the Old Spanish Trail, 2½ miles east of DeFuniak Springs, Fla. County seat of Walton county. One hundred feet of railroad access to Gulf Power Co.'s high-power lines. Am offering this land free for factory or industrial mfg. plants. This is an iron-clad proposition; will deliver a warranty deed to the right parties. No triflers need apply. Tax exemption possible. If interested write A. L. COTTRILL, DeFuniak Springs, Fla.

## PATENT ATTORNEYS

PATENTS—Booklet free. Highest references. Best results. Promptness assured. WATSON E. COLEMAN, Patent Lawyer, 724 Ninth St., N. W., Washington, D. C.

FREE "PATENT PARTICULARS" Sterling Buck, over 23 years Registered Patent Attorney Prompt and thorough services. Suite M 629 F, Washington, D. C.

SEYMOUR & BRIGHT, Registered Patent Attorneys. Established 1876. PATENTS, TRADEMARKS, COPYRIGHTS. Prompt and thorough service. Suite 600-4, Barrister Building, Washington, D. C.

PATENTS--TRADEMARKS--COPYRIGHTS Charlotte office convenient to South. PAUL B. EATON, Registered Patent Attorney, 218 Johnson Building, Charlotte, N. C., and 314 McLachlen Building, Washington, D. C.

EDWARD C. SASNETT, Atty. at Law, formerly a Principal Examiner in the U. S. Patent Office. I offer to inventors and manufacturers a strictly personal service based on twenty years' experience in patent work. McGill Building, Washington, D. C.

## AGENCIES WANTED

SALES REPRESENTATIVE—Large and valuable acquaintance with foundries, stove manufacturers. Coal mines and supply houses in entire South wishes immediate connection; salary or commission. Highest references. Address W. J. BACH, 1139 So. 14th Street, Birmingham, Ala.

FIRST-CLASS SALESMAN, 32 years old, 10 years' experience traveling Louisiana-Mississippi territory, past two years dist. sales mgr. for large Eastern company, would like 3 or 4 good lines as manufacturer's agent. Best acquainted hardware, mill supplies, engineering and steam specialties, but will consider any good lines. What have you? No. 9031, care Manufacturers Record.

OLD ESTABLISHED New York Export House wishes represent manufacturers desiring expand or initiate business in Latin America. Has own agents covering territory and owner has 10 years' personal experience there. For reputable concern would consider sales representation New York District jointly with export. Write H. W., Room 903, 111 Broadway, New York City.

## REPRESENTATIVES WANTED

IF YOU HAVE a following among steam boiler operators and are not afraid to work you can make good money by selling our Boiler Compounds on commission basis. We make water analysis and guarantee results on our Water and Metal Treatments. Write for particulars.

SOUTHERN PRODUCTS CORPORATION, New Orleans, La.

## SITUATIONS WANTED

## AGRICULTURAL EXECUTIVE

This ad is addressed to the man who owns a large body of land which under intelligent and honest management can be developed into a profitable institution. To this man I offer my services, based on a good education, sixteen years' experience and a forceful personality. My experience includes extensive operation under tenant system, the development of special markets and constructive community influence. A Southern location is preferred. Address No. 9029, care of Manufacturers Record, Baltimore.

## MEN WANTED

WANTED—Salesman experienced in selling lumber or creosoted wood products. Address No. 9032, care of Manufacturers Record, Baltimore, Md.

IF YOU ARE OPEN to overtures for new connection and qualified for a salary between \$2500 and \$25,000, your response to this announcement is invited. The undersigned provides a thoroughly organized service, of recognized standards and reputation, through which preliminaries are negotiated confidentially for positions of the caliber indicated. The procedure is individualized to each client's personal requirements, your identity covered and present position protected. Established twenty years. Send only name and address for details.

R. W. BIXBY, INC., 103 Downtown Bldg. Buffalo, New York



## RESALE DEPARTMENT

MACHINERY

EQUIPMENT

SUPPLIES

BOILERS  
FOR SALE

25 Steam Boilers. Several Water Tube Boilers, ranging in sizes from 200 H. P. to 400 H. P. Several Return Tubular Boilers ranging in sizes from 125 H. P. to 150 H. P. Can be seen in operation.

No Reasonable Offer Will Be Refused.

ATLANTIC ICE & COAL CO.  
ATLANTA, GEORGIA

USED  
DIESEL ENGINES

40 HP Fairbanks, Morse with belted 30 KVA 1200 RPM 3 phase, 60 cycle, 2300 volt alternator-exciter-switch-board.

60 HP Bessemer for belt drive.

180 HP Fairbanks, Morse for belt drive-Friction clutch pulley—complete equipment—can be arranged to drive generator.

10 HP Fairbanks, Morse semi-Diesel horizontal—complete equipment.

The above engines were traded in for larger equipment  
All the above reasonably priced

FAIRBANKS, MORSE & CO.  
115 E. Lombard Street,  
BALTIMORE, MD.

## FOR SALE AT A BARGAIN

6—200 H.P. 72" x 20', Walsh & Weidner H.R.T. Boilers. 84—4" tubes. 130 lbs. steam pressure allowed by Hartford Steam Boiler Co. Will be sold singly, in pairs or the entire lot.

Can Be Seen in Operating Condition

TENNESSEE EASTMAN CORPORATION  
—OWNERS—  
Kingsport, Tenn.

## OPPORTUNITY

Have you a used engine, air compressor, rails or equipment of any kind you are not using? Here is your opportunity to turn them into cash. Use our Resale Department for good results.

Manufacturers Record  
Baltimore, Md.

# ROCKFORD REBUILT

**MOTORS  
GENERATORS  
COMPRESSORS  
ENGINES  
ETC.**

The true value of ROCKFORD REBUILT equipment is in greatest evidence when it's in your service. Only then can you appreciate that it has been rebuilt properly, by the lack of repair bills.

Hundreds of machines—all makes, sizes, and types,—available for immediate shipment, all thoroughly rebuilt, and ONE YEAR GUARANTEED.



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"EVERYTHING IN MOTORS"

**ROCKFORD POWER MACHINERY CO.**  
620-626 SIXTH ST., ROCKFORD, ILLINOIS

## FOR SALE

1—No. 3 American Molder Machine. Serial No. 524694—7" Capacity: Direct connected to 20 HP Motor, 3 ph, 60 cy, 220 V.

**MARYLAND PIPE & STEEL CORP.**  
Ostend and Scott Sts. Baltimore, Md.

Second Hand  
and New  
Wrought Iron

## PIPE

Overhauled  
Rethreaded  
and Coupled

Also Cut to Sketch

**Greenpoint Iron & Pipe Co., Inc.**  
187-197 Maspeth Ave. Brooklyn, N. Y.

**NEW PIPE USED**  
Our Prices  
Will Startle You  
**ZELNICKER IN ST. LOUIS**  
Rails, Equipment, Machinery, Oil Engines,  
Tanks, Steel Sheet Piling, etc.

1—Hamilton Corliss Engine  
18" x 42"—250 H.P.—Serial No. 3608  
1—Hamilton Corliss Engine  
14" x 24"—150 H.P.—Serial No. 3609  
(direct connected to 120 KW. Generator)  
1—Westinghouse D. C. Generator  
120 K.W.—125 V.—200 R.P.M.  
4—Jones Auto. Underfeed Stokers (for 2 boilers)  
1—B & W 300 H.P. tubular boiler  
(A-1 condition)  
**NASHVILLE IRON & METAL CO.**  
1500 Clinton St. Nashville, Tenn.

## WANTED

One used 75 H. P. Diesel Oil Engine.

Write:

**The Pound River Electric Company, Inc.**  
Pound, Virginia.

**IRON AND STEEL PIPE**

Large quantity new and used Government material in excellent condition, ready for immediate shipment. Low prices.

**CENTRAL PIPE & SUPPLY CO.**  
Box 1099 Charleston, W. Va.

## 8" Galvanized Corrugated Pipe

6000 ft. 8" NEW GALVANIZED CORRUGATED pipe in lengths 16 to 20 ft. suitable for exhaust drains, water systems, sewers, etc. Have the necessary connecting sleeves. Price considerably under the market.

2000 ft. 12" Naylor black asphalted spiral welded slip joint pipe, slightly used.

**MARINE METAL & SUPPLY CO.**  
167 South Street New York City

## PIPE

Rethreaded, reconditioned, guaranteed, suitable for all practical purposes, furnished with new threads and couplings, 400,000 feet in all sizes from 24" to 3/4".

Also large stock of spiral pipe, sizes 7", 10", 12", 14", 20" and 24".

Large stock of valves and fittings, screwed and flanged. Can make attractive prices.

**MARINE METAL & SUPPLY CO.**  
167 South St., New York City

## PIPE NEW

SECOND HAND  
Overhauled and Tested  
New Threads and Couplings  
Established 1904

**Albert & Davidson  
Pipe Corp.**

Second Ave., 50th-51st St., Brooklyn, N. Y.  
Telephone Sunset 1900

SATISFACTION

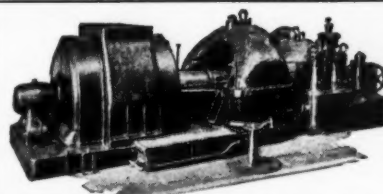
**ALBERT PIPE SUPPLY CO., INC.**  
NEW-RECLAIMED-USED

## PIPE

ALL SIZES CUT TO SKETCH  
AND STOCKED

**BERRY & NORTH 13th STS.**  
BROOKLYN, N.Y.

GUARANTEED



10,000 KVA Turbo typical of 4 units recently delivered and similar to the following.

**PRACTICALLY NEW 100% INTERNAL EXCELLENCE WESTINGHOUSE CONDENSING TURBO UNITS COMPLETE—INSTANT SHIPMENT**

1—15,000 KW CW-218 Frame—1800 RPM  
1—10,000 KVA CW-118 Frame—1800 RPM  
1—7,500 KW CW-78 Frame—1800 RPM  
1—5,500 KVA CW-76 Frame—3600 RPM  
1—4,000 KVA CW-76 Frame—3600 RPM  
3—1,700 KVA CW-26 Frame—3600 RPM  
1—1,500 KVA CW-16 Frame—3600 RPM  
(3 phase, 60 cycle, standard voltages)

A.S.M.E. CODE DESIGN BOILERS 200-225 lbs.

2—1500 H.P. Cross Drum B & W  
2—2650 HP Ladd Bent Tube  
6—627 HP Stirling Plant, modern stokers, auxiliaries  
8—504 HP B & W Vertical Steel headers, et al.

**CONDENSERS MOTOR GENERATOR SETS**

Verification and proof of new equivalent condition easily reached on personal inspection

50% to 200% saving on investment

Send us list of your requirements—or what you have for sale

COME TO CINCINNATI



## HRT BOILERS

Battery 2—66" x 16' Coatesville 100 H.P. each A.S.M.E.—150 lbs. Priced low.

**M. J. HUNT'S SONS**

1620 N. Delaware Ave., Philadelphia, Pa.

## RANDLE

OFFERS BIG BARGAINS IN

Used and Rebuilt Engine Generator Sets, Turbo Generator Sets, Motors, Rotary Converters, Generators, Motor Generator Sets, Engines, Boilers, Steam and Electric Machinery of all kinds, also Machine Tools. Send for our new machinery list. Yours for the asking. Established 50 years

**The RANDLE  
MACHINERY CO.**

1734 Powers St., Cincinnati, Ohio

**Low Cost**

**Long Life**

**UNEXCELLED SERVICE**



Three strong factors that have kept Gregory HI-GRADE-REBUILT MOTORS and Electrical Machinery in the lead since 1893.

Before buying consult Gregory's 80-page illustrated Monthly Bargain Sheet. It will save you Money, Time and Worry. Thousands of buyers have proved to their own satisfaction and profit that it pays to buy

**GREGORY HI-GRADE-REBUILT  
Electrical Machinery**

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**WHY SHOP? HERE'S THE PLACE TO BUY IT!****IT'S  
PRICED  
RIGHT****IS  
RIGHT****SPECIALS**

75 Kw. Generator, Westinghouse, Ts. S. 230 volts D.C., 500 r.p.m.  
New Westinghouse, Type A, Starters, 30-40-50-60-100 HP., 25 cy., 3 ph., 2200 v.  
200 Kw., Rotary Converter, 230 v., D.C., 25 cy., with Transformers.

**RECENTLY PURCHASED**

3—CARLOADS, 60 cy. Motors, 1 HP. to 150 HP. All speeds.  
25 Cycle Motors, 1 HP. to 300 HP.

**SPECIALS**

125 Kw., General Electric, 60 cy., 240 v. generator, direct connected to Skinner steam engine, Complete.  
250 HP. New Lincoln slip ring Motor, 25 cy., 3 ph., 440 v., 500 r.p.m. Complete with new drum control and grids.

**ERIE ELECTRIC MOTOR REPAIR CO., Inc., 120-124 Church St., Buffalo, N. Y.****GENERATOR SETS**

2—50 KVA, 220 volt, 3 phase, 60 cycle Ridgeway Generators, direct connected to Ridgeway Engines.  
1—500 KW, 2300 volt, 3 phase, 60 cycle Turbo Generator set with condenser.

**BOILERS**

2—500 H.P. Heine Water Tube, 160 lbs. pressure, A.S.M.E. code.  
2—180 H.P. Keeler water tube, 200 lbs. pressure, A.S.M.E. code.  
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No. 1 Kempsmith Universal miller, single pulley drive, table 35½x8½.  
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No. 3 Southwark single end punch, 24" throat arch jaw, motor drive, cap. ¾" x ¾".  
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1 to 4" Oster pipe machine belt and motor drive.  
8' Covington squaring shear ¼" cap.

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Wanted especially—high voltage large capacity transformers in carload shipment.

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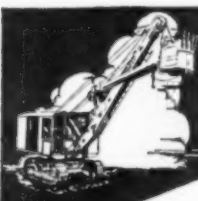
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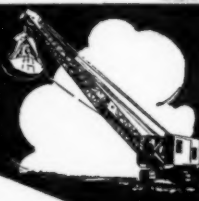
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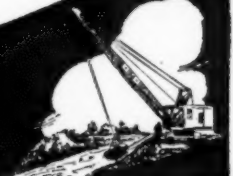
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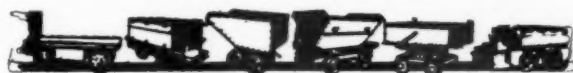
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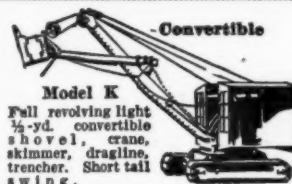
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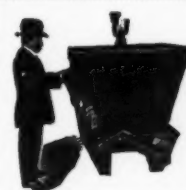


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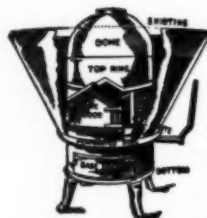
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The low cost makes it valuable  
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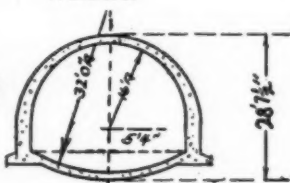
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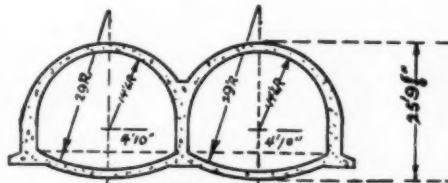
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Section H of this job was awarded to R. J. Blackburn, Inc., who used 3 Monighan Walkers. The contract for Section G was handled by A. Guthrie & Co., Inc., who used a 3-W Monighan Walker.

While the various sections of this job were awarded to a number of contractors, practically the entire work was done by Monighan Walkers.



Typical diagram of  
Section E



Typical Diagram of  
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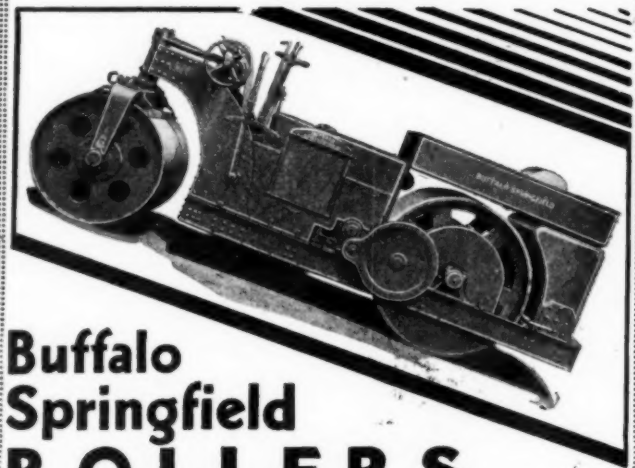
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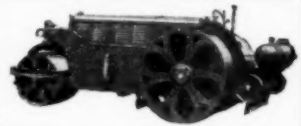
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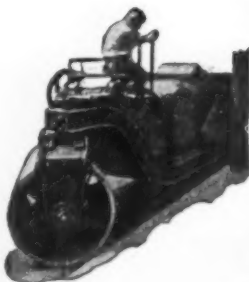
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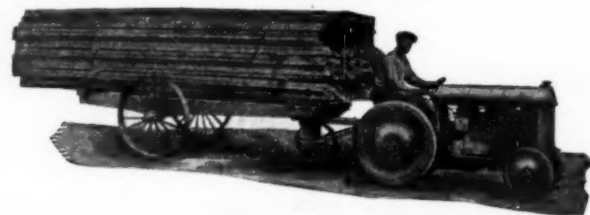
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SAME HIGH QUALITY



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Allen-Sherman-Hoff Co., Phila., Pa.

## —Storage Tanks (Cast Iron.)

Allen-Sherman-Hoff Co., Phila., Pa.

## ASPHALT.

Gulf Refining Co., Pittsburgh, Pa.

## —Filler.

American Limestone Co., Knoxville, Tenn.

## AUDITORS.

Black & Co., Baltimore, Md.  
Ernst & Ernst, New York, N. Y.  
Hollowell Gorham & Co., Greensboro, N. C.  
Le Baron, Ernest T., Jacksonville, Fla.

## BABBITT METAL.

Ryerson & Sons, Inc., Jos. T., St. Louis and New York.

## BACKFILLERS.

Austin Machinery Corp., Muskegon, Mich.  
Buckeye Traction Ditcher Co., Findlay, O.  
Harnischfeger Corp., Milwaukee, Wis.  
National Equipment Corp. (Insley, Parsons), Milwaukee, Wis.

## BALLAST (Railroad.)

American Limestone Co., Knoxville, Tenn.

## BANKERS and BROKERS.

Provident Savings Bank & Trust Co., Cincinnati, Ohio.  
Taylor, Wilson & Co., Inc., Cincinnati, Ohio.

## BANKS and TRUST COMPANIES.

Baltimore Commercial Bank, Balto., Md.  
Bank of Alabama, The, Ensley, Ala.  
Bank of New York & Trust Co., N. Y.  
First and Merchants National Bank, Richmond, Va.  
Maryland Trust Co., Baltimore, Md.  
Mercantile Trust Co., Baltimore, Md.

## BARGES (Steel.)

American Bridge Co., New York, N. Y.  
McClintic-Marshall Co., Pittsburgh, Pa.

## BARS (Steel, Rounds, Flats, Hexagon and Squares.)

Carnegie Steel Co., Pittsburgh, Pa.  
Connors Steel Co., Birmingham, Ala.  
Gulf States Steel Co., Birmingham, Ala.  
Knoxville Iron Co., Knoxville, Tenn.  
Republic Steel Corp., Youngstown, Ohio.  
Ryerson & Sons, Inc., Jos. T., St. Louis, and New York.  
Sweet's Steel Corp., Williamsport, Pa.  
Tennessee Coal, Iron & Railroad Co., Birmingham, Ala.  
Timken Roller Bearing Co., Canton, Ohio.  
Virginia Bridge & Iron Co., Roanoke, Va.  
Youngstown Sheet & Tube Co., Youngstown, Ohio.

## BATTERIES (Storage.)

Electric Storage Battery Co., Phila., Pa.

## BEAMS, CHANNELS, ANGLES.

Belmont Iron Works, Philadelphia, Pa.  
Carnegie Steel Co., Pittsburgh, Pa.  
Chattanooga Boiler & Tank Co., Chattanooga, Tenn.  
Tennessee Coal, Iron & Railroad Co., Birmingham, Ala.  
Virginia Bridge & Iron Co., Roanoke, Va.

## BEARINGS (Anti-friction.)

Hyatt Roller Bearing Co., Newark, N. J.  
Timken Roller Bearing Co., Canton, Ohio.

## —(Line Shaft.)

Wood's Sons Co., T. B., Chambersburg, Pa.

## —(Roller.)

Hyatt Roller Bearing Co., Newark, N. J.  
Timken Roller Bearing Co., Canton, Ohio.

## BELT (Chain.)

Diamond Chain & Mfg. Co., Indianapolis.  
Morris Chain Co., Ithaca, N. Y.

## —(Leather, Canvas, Rubber.)

Charlotte Lathet Belding Co., Charlotte, N. C.

## —Dressing.

Dixon Crucible Co., Jas., Jersey City, N. J.

## —Conveyers.

Barber-Greene Co., Aurora, Ill.

## BENCH LEGS.

Angle Steel Stool Co., Plainwell, Mich.

## —Drawers (Steel.)

Angle Steel Stool Co., Plainwell, Mich.

## BENCHES AND TABLES.

### (Steel.)

Angle Steel Stool Co., Plainwell, Mich.

## BILLETS (Basic Open Hearth.)

Gulf States Steel Co., Birmingham, Ala.  
Republic Steel Corp., Youngstown, Ohio.  
Tennessee Coal, Iron & Railroad Co., Birmingham, Ala.

## BINS (Drill and Reamer.)

Angle Steel Stool Co., Plainwell, Mich.

## —(Steel Loading.)

Blaw-Knox Co., Pittsburgh, Pa.

## BLASTING POWDER and Accessories.

Du Pont de Nemours & Co., E. I., Wilmington, Del.  
Hercules Powder Co., Inc., Wilmington, Del.

## BLINDS (Venetian and Awning.)

Wilson Corp., The J. G., New York.

## BLOCKS (Chain.)

Harrington Co., The, Philadelphia, Pa.

## —TACKLE for Wire and Manila Rope.

Patterson Co., W. W., Pittsburgh.

## BLOWERS and Exhaust Fans.

National Blow Pipe & Mfg. Co., Ltd., New Orleans, La.

## BLOW PIPE SYSTEMS.

National Blow Pipe & Mfg. Co., Ltd., New Orleans, La.  
Skinner Bros. Mfg. Co., St. Louis, Mo.

## BOILERS (New.)

Babcock & Wilcox Co., The, New York.  
Charleston Dry Dock & Machine Co., Charleston, S. C.  
Chattanooga Boiler & Tank Co., Chattanooga, Tenn.  
Cole Mfg. Co., R. D., Newman, Ga.  
Combustion Engr. Corp., New York, N. Y.  
Hedges Walsh Welding Co., Chattanooga, Tenn.  
Lombard Iron Works & Supply Co., Augustus, Ga.  
Oil City Boiler Works, Oil City, Pa.  
Schiffel's Sons Co., S. S., Macon, Ga.  
Titusville Iron Works Co., Titusville, Pa.  
Vogt Mch. Co., Henry, Louisville, Ky.

## —(Old.)

Babcock & Wilcox Co., New York

## —(Stoker Unit.)

Oil City Boiler Works, Oil City, Pa.

## —(Used.)

Delta Equipment Co., Philadelphia, Pa.  
O'Brien Machinery Co., Philadelphia, Pa.  
Randle Machinery Co., The, Cincinnati, O.  
Zelnicke Supply Co., W. A., St. Louis.

## BOILER SETTINGS.

Babcock & Wilcox Co., New York  
Harrison-Walker Refractories Co., Pittsburg.

## —Tubes

Babcock & Wilcox Co., New York  
Boiler Tube Co. of America, Pittsburgh.  
National Tube Co., Pittsburgh, Pa.  
Ryerson & Sons, Inc., Jos. T., St. Louis and New York.

## —Tubes (Charcoal, Iron.)

Reading Iron Co., Reading, Pa.

## BOLTS, Rivets, Studs, Washers.

Bethlehem Steel Co., Bethlehem, Pa.  
Progressive Mfg. Co., Torrington, Conn.  
Republic Steel Corp., Youngstown, Ohio.  
Russell, Burdall & Ward Bolt & Nut Co., Port Chester, N. Y.  
Ryerson & Sons, Inc., Jos. T., St. Louis and New York.

## —(Track.)

Sweet's Steel Co., Williamsport, Pa.

## BOND BUYERS.

Garraway & Co., S. G., Chicago.  
Hanchett Bond Co., Inc., The, Chicago.  
Law & Co., A. M., Spartanburg, S. C.  
Marr & Co., Birmingham, Ala.  
Mercantile Trust Co., Baltimore, Md.  
Nurcen & Co., John, Chicago, Ill.

## Provident Savings Bank and Trust Co.

Cincinnati, Ohio.  
Seasongood & Mayer, Cincinnati, Ohio.  
Taylor, Wilson & Co., Inc., Cincinnati, Ohio.

## BOBING (Core.)

Mott Core Drilling Co., Huntington, W. Va.  
Pennsylvania Drilling Co., Pittsburgh, Pa.  
Southern Drilling Co., Saltville, Va.  
Sprague & Henwood, Inc., Scranton, Pa.

## BOXES (Paper.)

Old Dominion Box Co., Lynchburg, Va.

## BRASS GOODS.

Chase Brass & Copper Co., Waterbury, Conn.  
Copper and Brass Research Assn., New York.  
Mueller Co., Decatur, Ill.

## BRICK (Common Building.)

Friend & Co., Inc., Petersburg, Va.

## —(Face.)

Alabama Clay Prod. Co., Birmingham.

## —(Fire.)

Alabama Clay Prod. Co., Birmingham.  
Cambria Clay Products Co., Blackfork, O.  
Dee Co., Wm. E., Oak Hill, Ohio.  
Taylor Sons Co., Charles, Cincinnati.

## —(Vitrified, Paving.)

National Paving Brick Mfrs. Assn., Washington, D. C.

## —and Clayworking Machy.

Steel & Sons, J. C., Statesville, N. C.

## BRIDGE (Operating Machinery.)

Earle Gear & Machine Co., Phila., Pa.

## —Timber.

Amer. Cragoting Co., Louisville, Ky.  
Industrial Lumber Co., Elizabeth, La.  
Kirby Lumber Co., Houston, Texas.

## BRIDGES (Concrete.)

Atlantic Bridge Co., Greensboro, N. C.

## —(Creosoted Wood.)

Atlantic Bridge Co., Greensboro, N. C.

## —(Steel.)

American Bridge Co., New York, N. Y.  
Atlantic Bridge Co., Greensboro, N. C.  
Belmont Iron Works, Philadelphia, Pa.  
Bristol Steel & Iron Works, Inc., Bristol, Va.  
Champion Bridge Co., Wilmington, O.  
Converse Bridge & Steel Co., Chattanooga, Tenn.  
Ingalls Iron Works Co., Birmingham, Ala.  
McClintic-Marshall Co., Pittsburgh, Pa.  
Nashville Bridge Co., Nashville, Tenn.  
Richmond Struct. Steel Co., Richmond, Va.  
Virginia Bridge & Iron Co., Roanoke, Va.

## BRONZE (Architectural.)

Heath Company, J. S., Waukegan, Ill.

## —(Machine.)

Moccasin Brushing Co., Chattanooga, Tenn.

## BUBBLERS.

Rundle-Spence Mfg. Co., Milwaukee, Wis.

## BUCKETS (Clam Shell.)

Blaw-Knox Co., Pittsburgh, Pa.  
Hayward Co., The, New York, N. Y.  
Industrial Brownhoist Corp., Cleveland, O.  
Klesler Co., Jos. F., Chicago, Ill.  
Owen Bucket Co., The, Cleveland, Ohio.

## —(Dredging, Excavating, Sewer, etc.)

Hayward Co., The, New York, N. Y.  
Monaghan Mfg. Corp., Chicago, Ill.  
Klesler Co., Jos. F., Chicago, Ill.  
Owen Bucket Co., The, Cleveland, Ohio.  
Stuebner Iron Works, G. L., Long Island City, N. Y.

## —(Elevator.)

Hendrick Mfg. Co., Carbondale, Pa.  
Webster & Weller Mfg. Companies, Chicago, Ill.

## —(Orange Peel.)

Hayward Co., The, New York, N. Y.

## —(Ore Handling.)

Hayward Co., The, New York, N. Y.  
Owen Bucket Co., The, Cleveland, Ohio.  
Stuebner Iron Works, G. L., Long Island City, N. Y.



**BUILDERS and Contractors.**

Barstow & Co., W. S., Reading, Pa.  
Copper Co., Inc., The John W., Richmond, Va.  
Moyer Co., Tilghman, Allentown, Pa.  
Stone & Webster, Inc., Boston, Mass.  
Thompson & Bros., T. C., Charlotte, N. C.  
White Engineering Corp., J. G., New York.

**BUILDINGS (Industrial.)**

Belmont Iron Works, Philadelphia, Pa.  
Blaw-Knox Co., Pittsburgh, Pa.  
Braden Steel Corp., Tulsa, Okla.  
Butler Mfg. Co., Kansas City, Mo.  
Maryland Metal Building Co., Balto., Md.  
McClintic-Marshall Co., Pittsburgh, Pa.  
Nashville Bridge Co., Nashville, Tenn.  
Virginia Bridge & Iron Co., Roanoke, Va.

**—(Portable Sheet Metal.)**

Braden Steel Corp., Tulsa, Okla.  
Butler Mfg. Co., Kansas City, Mo.  
Maryland Metal Building Co., Balto., Md.

**BULKHEADS.**

Shore-Line Builders, Inc., Jacksonville, Fla.  
Snare Corp., Frederick, New York, N. Y.

**BULLDOZERS.**

Trackson Co., Milwaukee, Wis.

**BUSHINGS (Brass and Bronze.)**

Moccasin Bushing Co., Chattanooga, Tenn.

**BUSINESS METHODS.**

Ernst & Ernst, New York, N. Y.

**CABINETS (Steel.)**

Angle Steel Stool Co., Plainwell, Mich.

**CABLES (Stud Link.)**

Woodhouse Chain Works, Trenton, N. J.

**—and Wire (Electric.)**

American Steel & Wire Co., Balto., Md.  
Okonite Co., New York, N. Y.  
Roebling's Sons Co., John A., Trenton, N. J.  
Western Electric Co., New York City.

**CABLEWAYS (Overhead Suspension.)**

Broderick & Bascom Rope Co., St. Louis  
Lidgerwood Mfg. Co., Elizabeth, N. J.  
Sauerman Bros., Chicago, Ill.

**CALCIUM CHLORIDE.**

Grassell Chemical Co., Inc., Birmingham, Ala.

**CAN and Box-Making Machinery (Tin.)**

Bliss Co., E. W., Brooklyn, N. Y.

**CAR Loaders and Unloaders.**

Harber-Greene Co., Aurora, Ill.  
Stephens-Adamson Mfg. Co., Birmingham, Ala.

**—Fullers.**

Webster & Weller Mfg. Companies, Chicago, Ill.

**CARS (Dump, Industrial, Logging and Mine.)**

Atlas Car & Mfg. Co., The, Cleveland, O.  
Easton Car & Construction Co., Easton, Pa.  
Koppel Ind. Car & Equip. Co., Koppel, Pa.  
Southern Iron & Equipment Co., Atlanta.

**—Steps (Safety.)**

Irving Iron Works Co., Long Island City, N. Y.

**CASTINGS (Brass, Bronze and Aluminum.)**

Inter-State Fdry. & Mach. Wks., Johnson City, Tenn.  
Moccasin Bushing Co., Chattanooga, Tenn.  
Mountain States Steel Foundries, Parkersburg, W. Va.

**—(Chilled Iron.)**

Fuller Lehigh Co., Fullerton, Penna.

**—(Gray Iron.)**

Fuller Lehigh Co., Fullerton, Penna.  
Glameran Pipe & Fdry. Co., Lynchburg, Va.  
Inter-State Fdry. & Mach. Wks., Johnson City, Tenn.  
National Cast Iron Pipe Co., Birmingham, Ala.  
Roanoke Iron & Bridge Works, Inc., Roanoke, Va.  
Salem Fdry. & Mach. Wks., Salem, Va.  
U. S. Pipe & Foundry Co., Burlington, N. J.

**—(Malleable Iron and Steel.)**

Timken Roller Bearing Co., Canton, O.

**—(Semi-Steel.)**

Salem Fdry. & Machine Works, Salem, Va.

**—(Steel.)**

Bethlehem Steel Co., Bethlehem, Pa.  
Crucible Steel Casting Co., Lansdowne, Delaware Co., Pa.  
Deemer Steel Casting Co., New Castle, Del.  
Lunkenheimer Co., Cincinnati, Ohio.

**CEILING (Metal.)**

Milcor Steel Co., Milwaukee, Wis.

**CEMENT (High Temperature.)**

Harbison Walker Refractories Co., Pittsburg.

**—(Portland.)**

Alpha Portland Cement Corp., Birmingham, Ala.  
Lehigh Portland Cement Co., New York.  
Louisville Cement Co., Louisville, Ky.  
Portland Cement Assn., Chicago, Ill.

**—Guns.**

Cement-Gun Co., Inc., Allentown, Pa.

**—Machinery.**

Allis-Chalmers Mfg. Co., Milwaukee, Wis.

**CHAIN BLOCKS (See Blocks, Chain.)****CHAINS (Dredge, Quarry, Steam Shovel.)**

Knoxville Iron Co., Knoxville, Tenn.  
Woodhouse Chain Works, Trenton, N. J.

**—(High Speed Roller.)**

Diamond Chain & Mfg. Co., Indianapolis.

**—(Silent Drive.)**

Diamond Chain & Mfg. Co., Indianapolis.  
Morse Chain Co., Ithaca, N. Y.

**—(Sprocket.)**

Chain Belt Co., Milwaukee, Wis.  
Diamond Chain & Mfg. Co., Indianapolis.  
Morse Chain Co., Ithaca, N. Y.

**—(Welded.)**

Woodhouse Chain Works, Trenton, N. J.

**CHAIRS (Opera and Theatre.)**

Andrews Co., A. H., Chicago, Ill.

**—and Stools (Steel.)**

Angle Steel Stool Co., Plainwell, Mich.

**CHEMICALS.**

Davison Chemical Co., Baltimore, Md.  
Grassell Chemical Co., Inc., Birmingham, Ala.

**CHEMISTS, CHEMICAL ENGINEERS (Analytical.)**

Barrow-Ages Laboratories, Memphis, Tenn.  
Flood & Co., Walter E., Chicago, Ill.  
Froehling & Robertson, Inc., Richmond, Va.  
Hunt Co., Robert W., Chicago, Ill.  
Meigs, Bassett & Slaughter, Phila., Pa.  
Picard Laboratories, The, Birmingham, Ala.  
Pittsburgh Testing Laboratories, Pittsburgh, Pa.  
Southwestern Laboratories, Fort Worth, Texas.  
Stillman & Van Stelen, New York.  
Willey & Co., Inc., Baltimore, Md.

**—(Consulting, Paper Industry.)**

Froehling & Robertson, Inc., Richmond, Va.

**CHIMNEYS (Concrete.)**

Rust Engineering Co., Birmingham, Ala.

**—(Radial Brick.)**

Rust Engineering Co., Birmingham, Ala.

**CHLORIDE ACCUMULATOR.**

Electric Storage Battery Co., Phila., Pa.

**CHLORINATORS.**

Rees, S. P., Atlanta.

**CIRCUIT BREAKERS.**

I. T. E. Circuit Breaker Co., Phila., Pa.  
Westinghouse Electric & Mfg. Co., E. Pittsburgh, Pa.

**CITY and TOWN PLANNING.**

Draper, E. S., Charlotte, N. C.  
Ludlow Engineers, Winston-Salem, N. C.

**CLOCKS (For all purposes.)**

Kaiser Klock Co., L. E., Baltimore, Md.

**—(Watchman's Portable.)**

Davis-Paradis Watchman's Clock Corp., New York, N. Y.  
Kaiser Klock Co., L. E., Baltimore, Md.

**CLUTCHES (Friction.)**

Caldwell Co., Inc., W. E., Louisville, Ky.  
Schultz & Son, A. L., Chicago, Ill.  
Wood's Sons Co., T. B., Chambersburg, Pa.

**COAL (Bituminous.)**

Sloss-Sheffield Steel & Iron Co., Birmingham, Ala.  
Tennessee Coal, Iron & Railroad Co., Birmingham, Ala.

**—and Ash-Handling Mchry.**

Allen-Sherman-Hoff Co., Phila., Pa.  
Chain Belt Co., Milwaukee, Wis.  
Hayward Co., The, New York, N. Y.  
Industrial Brownhoist Corp., Cleveland, O.  
Northwest Engineering Co., Chicago.  
Stephens-Adamson Mfg. Co., Birmingham, Ala.  
Webster & Weller Mfg. Companies, Chicago, Ill.

**—Bunkers (Cast Iron.)**

Allen-Sherman-Hoff Co., Phila., Pa.

**—Tipples.**

American Bridge Co., New York, N. Y.  
Virginia Bridge & Iron Co., Roanoke, Va.

**COCKS (Service.)**

Marco Nordstrom Valve Co., San Francisco, Calif.

**COKE.**

Sloss-Sheffield Steel & Iron Co., Birmingham, Ala.  
Tennessee Coal, Iron & Railroad Co., Birmingham, Ala.

**COLUMNS (Cast Iron.)**

U. S. Pipe & Foundry Co., Burlington, N. J.

**COMPRESSORS.**

Union Steam Pump Co., Battle Creek, Mich.

**—(Gasoline Extraction.)**

Sullivan Machinery Co., Chicago, Ill.

**CONCRETE (Block Machinery.)**

Blystone Mfg. Co., Cambridge Springs, Pa.

**—Construction (Reinforced.)**

Cement-Gun Co., Inc., Allentown, Pa.  
Cement Gun Construction Co., Chicago.  
Rust Engineering Co., Birmingham, Ala.

**—Floor Slabs.**

American Cement Tile Mfg. Co., Pittsburgh, Pa.

**—Information Only.**

Portland Cement Assn., Chicago, Ill.

**—Mixers.**

Blystone Mfg. Co., Cambridge Springs, Pa.  
Chain Belt Co., Milwaukee, Wis.  
Dunning & Boschert Press Co., Inc., Syracuse, N. Y.  
Jaeger Machine Co., Columbus, Ohio.  
Lansing Co., Lansing, Mich.

**—Pipe Machinery (See Pipe Machinery, Concrete.)****—Placing Equipment.**

National Equipment Corp. (Insley Division), Milwaukee, Wis.

**—Road Curing.**

McEverlast, Inc., Los Angeles, Cal.

**—Roofing Tile.**

American Cement Tile Mfg. Co., Pittsburgh, Pa.

**CONDENSERS.**

Chicago Pneumatic Tool Co., New York.  
Ingersoll-Rand Co., New York, N. Y.  
Manitowoc Iron Works Co., Manitowish, Mich.  
Union Steam Pump Co., Battle Creek, Mich.  
Westinghouse Electric & Mfg. Co., E. Pittsburgh, Pa.

**CONDUITS (Electric, Interior, Steel.)**

Western Electric Co., New York City.  
Youngtown Sheet & Tube Co., Youngstown, Ohio.

**CONTRACTORS (Bridge)**

Madison City Bridge Co., Madison City, Mo.  
Snare Corp., Frederick, New York.

**—(Drainage and Dredging.)**

Arundel Corp., The, Baltimore, Md.  
Atlantic Gulf and Pacific Co., New York.

**—(Electrical.)**

Industrial Electrical Co., Savannah, Ga.  
Walker Electrical Co., Atlanta, Ga.  
Warner Service Co., Knoxville, Tenn.  
Webb Electric Co., Anderson, S. C.

**—(Foundations and Dams.)**

Calligan & Co., A. H., Richmond, Va.  
Snare Corp., Frederick, New York, N. Y.

**—(General.)**

Angle-Blackford Co., Greensboro, N. C.  
Blair, Algernon, Montgomery, Ala.  
Charleston Constructors, Inc., Charleston, S. C.  
Cornell-Young Co., Inc., Marion, Ga.  
Copper Co., Inc., The John W., Richmond, Va.  
Fiske-Carter Constr. Co., Greenville, S. C.

Gridley Constr. Co., Lee A., Knoxville, Tenn.  
Saville, Inc., Allen J., Richmond, Va.  
Snare Corp., Frederick, New York, N. Y.  
Stone & Webster, Inc., Boston, Mass.  
Thompson & Bros., T. C., Charlotte, N. C.  
Tucker & Laxton, Charlotte, N. C.  
White Engineering Corp., J. G., New York.

**—(Industrial Buildings.)**

Angle-Blackford Co., Greensboro, N. C.  
Barstow & Co., W. S., Reading, Pa.  
Blair, Algernon, Montgomery, Ala.  
Copper Co., Inc., The John W., Richmond, Va.  
Fiske-Carter Constr. Co., Greenville, S. C.  
Snare Corp., Frederick, New York, N. Y.  
Stone & Webster, Inc., Boston, Mass.  
Thompson & Bros., T. C., Charlotte, N. C.  
Tucker & Laxton, Charlotte, N. C.  
White Engineering Corp., J. G., New York.

**—Mill Village.**

Hornbuckle Contracting Co., Atlanta, Ga.

**—(Plastering.)**

Gomez & Co., P. L., Atlanta, Ga.  
Jennings & Co., Floyd, Atlanta, Ga.

**—(Power Piping.)**

Poe Piping & Heating Co., Greenville, S. C.

**—(Power Plants.)**

Snare Corp., Frederick, New York, N. Y.

**—(Railroad.)**

Calligan & Co., A. H., Richmond, Va.  
Cornell-Young Co., Inc., Marion, Ga.

**—(Reinforced Concrete.)**

Blair, Algernon, Montgomery, Ala.  
Cement Gun Construction Co., Chicago.  
Gunite Cone & Constr. Co., Kansas City.  
Tucker & Laxton, Charlotte, N. C.

**—(Road and Street Paving.)**

Fiske-Carter Constr. Co., Greenville, S. C.  
Gridley Constr. Co., Lee A., Knoxville, Tenn.  
Hornbuckle Contracting Co., Atlanta, Ga.  
McCrary Co., The J. B., Atlanta, Ga.

**—(Rust Proofing.)**

Dixie Electro Plating Co., Houston, Tex.

**—(Sewerage and Waterworks.)**

Gridley Constr. Co., Lee A., Knoxville, Tenn.  
Hardaway Contracting Co., Columbus, Ga.  
Hornbuckle Contracting Co., Atlanta, Ga.  
McCrary Co., The J. B., Atlanta, Ga.  
Snare Corp., Frederick, New York, N. Y.  
Tucker & Laxton, Charlotte, N. C.

**—(Sprinkler System.)**

Poe Piping & Heating Co., Greenville, S. C.

**—(Swimming Pool.)**

Rees, S. P., Atlanta, Ga.

**—(Water-Works.)**

Pittsburgh-Des Moines Steel Co., Pittsburgh, Pa.  
—Machinery and Supplies.  
(New.)  
Bay City Shovels, Inc., Bay City, Mich.  
Weller & Co., Birmingham, Ala.  
W-K-M Co., Inc., Houston, Texas.

**—Machinery and Supplies.**

(Used.)  
Christian & Co., J. R., Houston, Tex.  
Cohen, Chas. F., Lima, O.  
Equip. Sales & Rentals Co., Pittsburgh.  
Guion, Harry P., New York, N. Y.  
Johnson & Hoehler, Fernwood, Pa.  
Marine Metal & Supply Co., New York.

**CONTRACT WORK WANTED.**

(See following classifications:)

**Boiler and Tank Works.**  
**Castings.**  
**Forgings.**  
**Foundry and Machine Shops.**  
**Machinery (Special.)**  
**Ornamental Iron Work.**  
**Patterns.**  
**Sheet Metal Work.**  
**Structural Steel and Iron.**  
**Welding Plants.**

**CONVEYING AND ELEVATING MACHINERY.**

Barber-Greene Co., Aurora, Ill.  
Chain Belt Co., Milwaukee, Wis.  
McLanahan-Stone Machine Co., Hollidaysburg, Pa.  
Stephens-Adamson Mfg. Co., Birmingham, Ala.  
Universal Crusher Co., Cedar Rapids, Iowa.  
Webster & Weller Mfg. Companies, Chicago, Ill.

**CONVEYORS (Portable, Power-Driven.)**

Clark Tractor Co., Battle Creek, Mich.

**CORRESPONDENCE SCHOOLS.**

International Correspondence Schools, Scranton, Pa.

**COST SERVICE.**

Le Baron, E. T., Jacksonville, Fla.

**COTTON GIN MACHINERY.**

Continental Gin Co., Birmingham, Ala.

**—Mill Machinery.**

Southern Spindle &amp; Flyer Co., Inc., Charlotte, N. C.

**COUNTING APPARATUS.**

Veeder-Root, Inc., Hartford, Conn.

**COUPLINGS.**

Goldens' Fdy. &amp; Mach. Co., Columbus, Ga.

**—(Shaft.)**

Wood's Sons Co., T. B., Chambersburg, Pa.

**CRANES.**Austin Machinery Corp., Muskegon, Mich.  
Buckeye Traction Ditcher Co., Findlay, O.  
National Equipment Co. (Inley, Koehring, Parsons), Milwaukee, Wis.  
Northwest Engineering Co., Chicago, Ill.  
Ohio Power Shovel Co., Lima, Ohio.  
Thew Shovel Co., The Lorain, Ohio.  
Whiting Corp., Harvey, Ill.**—(Cantilever.)**

Whiting Corp., Harvey, Ill.

**—(Crawler.)**Buckeye Traction Ditcher Co., Findlay, O.  
Harnischfeger Corp., Milwaukee, Wis.  
Northwest Engineering Co., Chicago, Ill.  
Ohio Power Shovel Co., Lima, Ohio.  
Thew Shovel Co., The Lorain, Ohio.**—(Crawling Tractor.)**Northwest Engineering Co., Chicago, Ill.  
Ohio Power Shovel Co., Lima, Ohio.  
Thew Shovel Co., The Lorain, Ohio.**—(Electric Traveling.)**Harnischfeger Corp., Milwaukee, Wis.  
Milwaukee Elec. Crane & Hoist Corp., Milwaukee, Wis.  
Whiting Corp., Harvey, Ill.**—(Full Circle Steam and Electric.)**Austin Machinery Corp., Muskegon, Mich.  
Northwest Engineering Co., Chicago, Ill.  
Ohio Power Shovel Co., Lima, Ohio.  
Thew Shovel Co., The Lorain, Ohio.**—(Gasoline.)**Buckeye Traction Ditcher Co., Findlay, O.  
Harnischfeger Corp., Milwaukee, Wis.  
Industrial Brownhoist Corp., Cleveland, O.  
Northwest Engineering Co., Chicago, Ill.  
Ohio Power Shovel Co., Lima, Ohio.  
Thew Shovel Co., The Lorain, Ohio.**—(Jib.)**

Whiting Corp., Harvey, Ill.

**—(Locomotive.)**Bucyrus-Erie Co., Erie, Pa.  
Industrial Brownhoist Corp., Cleveland, O.  
Northwest Engineering Co., Chicago, Ill.  
Ohio Power Shovel Co., Lima, Ohio.  
Thew Shovel Co., The Lorain, Ohio.**—(Material Handling.)**Bay City Shovel, Inc., Bay City, Mich.  
Industrial Brownhoist Corp., Cleveland, O.  
Northwest Engineering Co., Chicago, Ill.  
Ohio Power Shovel Co., Lima, Ohio.  
Thew Shovel Co., The Lorain, Ohio.  
Universal Crane Co., Lorain, Ohio.**—(Traveling, Hand Power.)**Harrington Co., The Philadelphia, Pa.  
Whiting Corp., Harvey, Ill.**CRAWLERS (Tractor.)**Biddell Co., W. A., Bucyrus, Ohio.  
Trackson Co., Milwaukee, Wis.**CREOSOTED MATERIALS.**Amer. Creosote Wks., Inc., New Orleans.  
Delaware Wood Preserving Co., Philadelphia.  
Savannah Creosoting Co., Savannah, Ga.**CREOSOTED TIMBER.**Ayer & Lord Tie Co., Chicago, Ill.  
Brown Wood Preserving Co., Louisville, Ky.**CREOSOTE OIL.**Amer. Creosote Wks., Inc., New Orleans.  
Ayer & Lord Tie Co., Inc., Chicago.**CREOSOTING (Wood Materials.)**Amer. Creosote Wks., Inc., New Orleans.  
Amer. Creosoting Co., Inc., Louisville, Ky.  
Brown Wood Preserving Co., Louisville, Ky.  
Carolina Wood Preserving Co., Charleston, S. C.  
Delaware Wood Preserving Co., Philadelphia.  
Eppinger & Russell Co., New York, N. Y.  
Gulf States Creos. Co., Hattiesburg, Miss.  
Savannah Creosoting Co., Savannah, Ga.  
Taylor-Colquitt Co., Spartanburg, S. C.  
Wales Wood-Preserving Co., Norfolk, Va.**CROSS-ARMS (Creosoted.)**Amer. Creosote Wks., Inc., New Orleans.  
Amer. Creosoting Co., Inc., Louisville, Ky.  
Savannah Creosoting Co., Savannah, Ga.**—(Zinc Meta Arsenite Treated.)**

Curtin-Howe Corp., New York, N. Y.

**CROSS-TIES (Creosoted.)**Amer. Creosote Wks., Inc., New Orleans.  
Amer. Creosoting Co., Inc., Louisville, Ky.  
Ayer & Lord Tie Co., Inc., Chicago.

Carolina Wood Preserving Co., Charleston, S. C.

Eppinger & Russell Co., New York, N. Y.  
Savannah Creosoting Co., Inc., Savannah, Ga.

Taylor-Colquitt Co., Spartanburg, S. C.

—(Zinc Meta Arsenite Treated.)  
Curtin-Howe Corp., New York, N. Y.**CRUSHED STONE (Road Concrete and Ballast.)**American Limestone Co., Knoxville, Tenn.  
Boxley & Co., W. W., Roanoke, Va.**CRUSHERS (Coal and Coke.)**

Fuller Lehigh Co., Fullerton, Pa.

**—Rock.**

Universal Crusher Co., Cedar Rapids, Iowa.

**CRUSHING and Pulverizing Machinery.**Allis-Chalmers Mfg. Co., Milwaukee, Wis.  
Day Pulverizer Co., Knoxville, Tenn.  
Fuller Lehigh Co., Fullerton, Pa.  
McLanahan-Stone Machine Co., Hollidaysburg, Pa.  
Raymond Bros. Impact Pulverizer Co., Chicago, Ill.  
Universal Crusher Co., Cedar Rapids, Iowa.  
W-K-M Co., Inc., Houston, Texas.**CULVERT PIPE (Cast Iron.)**Amer. Cast Iron Pipe Co., Birmingham.  
Cast Iron Pipe Research Assn., Chicago.  
U. S. Pipe & Foundry Co., Burlington, N. J.**—(Corrugated Metal.)**American Sheet & Tin Plate Co., Pittsburgh, Pa.  
Armo Culvert Mfrs. Assn., Middletown, O.  
Dixie Culvert & Metal Co., Atlanta, Ga.  
Dixie Culvert Mfg. Co., Little Rock, Ark.  
Louisiana Corr. Culvert Co., Baton Rouge, La.  
Tenn. Metal Culvert Co., Nashville, Tenn.  
Western Metal Mfg. Co., Houston, Texas.**CUTTERS (Wire Rope.)**

Leach &amp; Sons Rope Co., A., St. Louis.

**CYLINDERS (Compressed Air, Gas.)**Janney, Jr., Jos. A., Phila., Pa.  
National Tube Co., Pittsburgh, Pa.**DERRICKS and Derrick Fittings.**Clyde Iron Works Sales Co., Duluth, Minn.  
Lidgerwood Mfg. Co., Elizabeth, N. J.  
Saugen Derrick Co., Chicago, Ill.**—(Used.)**

Galer Equipment Corp., New York, N. Y.

**DESKS (School.)**

Andrews Co., A. H., Chicago, Ill.

**—(Steel Factory.)**

Angle Steel Stool Co., Plainville, Mich.

**DITCHING MACHINERY.**Barber-Greene Co., Aurora, Ill.  
Bay City Shovel, Inc., Bay City, Mich.  
Buckeye Traction Ditcher Co., Findlay, O.  
Harnischfeger Corp., Milwaukee, Wis.  
Hayward Co., The, New York, N. Y.  
Industrial Brownhoist Corp., Cleveland, O.  
Northwest Engineering Co., Chicago, Ill.  
Ohio Power Shovel Co., Lima, Ohio.  
Owen Bucket Co., The, Cleveland, O.**DOORS (Bronze.)**

Michaels Art Bronze Co., Covington, Ky.

**—(Fire.)**

Merchant &amp; Evans Co., Philadelphia, Pa.

Richards-Wilcox Mfg. Co., Aurora, Ill.

**—(Fireproof, Air Chamber.)**

Wilson Corp., The J. G., New York.

**—(Kalamene.)**

Moeschl-Edwards Corr. Co., Cincinnati.

**—(Rolling, Steel and Wood.)**Kinneer Mfg. Co., The, Columbus, Ohio.  
Mahon Co., R. C., Detroit, Mich.  
Moeschl-Edwards Corr. Co., Cincinnati.  
Wilson Corp., The J. G., New York.**—(Steel.)**

Detroit Steel Products Co., Detroit, Mich.

**—(Tubular Steel.)**

Bayley Co., Wm., Springfield, O.

**DRAFTSMEN'S SUPPLIES.**

Weber Co., Inc., F., Philadelphia, Pa.

**DRAGLINE EXCAVATORS.**Austin Machinery Corp., Muskegon, Mich.  
Bucyrus-Erie Co., Erie, Pa.  
Harnischfeger Corp., Milwaukee, Wis.  
Monaghan Mfg. Corp., Chicago, Ill.National Equipment Corp. (Koehring, Inley), Milwaukee, Wis.  
Northwest Engineering Co., Chicago, Ill.  
Ohio Power Shovel Co., Lima, Ohio.  
Sauerman Bros., Chicago, Ill.  
Thew Shovel Co., The, Lorain, Ohio.  
Universal Power Shovel Co., Milwaukee, Wis.**DREDGES (Dipper, Elevator, Hydraulic.)**Bay City Shovel, Inc., Bay City, Mich.  
Bucyrus-Erie Co., Erie, Pa.  
Ellicott Machine Corp., Baltimore, Md.  
Morris Machine Wks., Baldwinville, N. Y.**DREDGING (River and Harbor Improvement.)**Arundel Corp., The, Baltimore, Md.  
Atlantic Gulf and Pacific Co., New York.**—Machinery.**American Steel Dredge Co., Fort Wayne, Ind.  
Ellicott Machine Corp., Baltimore, Md.  
Hayward Co., The, New York.**DRILLING CONTRACTORS.**Mott Core Drilling Co., Huntington, W. Va.  
Pennsylvania Drilling Co., Pittsburgh, Pa.  
Southern Drilling Co., Saltville, Va.  
Sprague & Henwood, Inc., Scranton, Pa.**DRILLS (Artesian Well.)**

Virginia Machinery &amp; Well Co., Inc., Richmond, Va.

**—(Electric.)**Chicago Pneumatic Tool Co., New York.  
Sullivan Mch. Co., Chicago.**—(Pneumatic.)**Chicago Pneumatic Tool Co., New York.  
Ingersoll-Rand Co., New York, N. Y.  
Sullivan Machinery Co., Chicago, Ill.**DRINKING FOUNTAINS.**

Randle-Spence Mfg. Co., Milwaukee, Wis.

**DROP-FORGING MACHINERY.**

Bliss Co., E. W., Brooklyn, N. Y.

**DRIERS (Gravel and Sand.)**

Ripley Fdy. &amp; Mch. Co., Ripley, Ohio.

**DRY KILNS and Equipment.**

Moore Dry Kiln Co., Jacksonville, Fla.

**DRYING MACHINERY.**

American Process Co., New York, N. Y.

**DUMP TRUCK BODIES and HOISTS.**Easton Car & Construction Co., Easton, Pa.  
Lee Trailer & Body Co., Inc., Plymouth, Ind.**DUSTPROOFING (Concrete.)**

Sonnenborn Sons, Inc., L., New York.

**DYESTUFFS.**

Du Pont de Nemours &amp; Co., Inc., E. I., Wilmington, Del.

**DYNAMITE (Industrial and Agricultural.)**Du Pont de Nemours & Co., Inc., E. I., Wilmington, Del.  
Hercules Powder Co., Inc., Wilmington, Del.**ECONOMIZERS (Fuel.)**

Babcock &amp; Wilcox Co., New York.

**ELECTRICAL Instruments and Supplies.**Adams Electric Co., Frank, St. Louis.  
General Electric Co., Schenectady, N. Y.  
Western Electric Co., New York City.**—Machinery (Generators, Motors, etc., New.)**Allis-Chalmers Mfg. Co., Milwaukee, Wis.  
Elliotte, Howard C., Miami, Fla.  
Fairbanks, Morse & Co., Chicago, Ill.  
General Electric Co., Schenectady, N. Y.  
Howell Electric Motors Co., Howell, Mich.  
Rockford Power Mch. Co., Rockford, Ill.  
Westinghouse Electric & Mfg. Co., E. Pittsburgh, Pa.**—Machinery (Generators, Motors, etc., Used.)**Belyas Co., Inc., New York City.  
Delta Equipment Co., Philadelphia, Pa.  
Electric Service Co., Cincinnati, Ohio.  
Electrical Equip. Co., Raleigh, N. C.  
General Electric Co., Schenectady, N. Y.  
Gregory Electric Co., Chicago.  
Nashville Industrial Corp., Old Hickory, Tenn.  
Nussbaum & Co., V. M., Ft. Wayne, Ind.  
O'Brien Machinery Co., The, Phila., Pa.  
Randle Machinery Co., The, Cincinnati, O.  
Rockford Power Mch. Co., Rockford, Ill.  
Stewart Elec. Co., John A., Cincinnati.**—Machinery Repairing (Motors, Generators, etc.)**Electric Service Co., Cincinnati, Ohio.  
Gregory Electric Co., Chicago.**ELECTRIC LIGHTING.**

General Electric Vapor Lamp Co., Hoboken, N. J.

**ELECTRIC SHOVELS (See Shovels.)****ELEVATOR Cables.**

Leschen &amp; Sons Rope Co., A., St. Louis.

**—(Equalizers.)**

Ernst Elevator Equalizer Co., Bedford, Ind.

**ELEVATORS (Electric.)**American Elevator & Machine Co., Inc., Louisville, Ky.  
Millner Co., St. Louis, Mo.**—(Hand and Belt Power.)**American Elevator & Machine Co., Inc., Louisville, Ky.  
Millner Co., St. Louis, Mo.**—(Hydraulic.)**

American Elevator &amp; Machine Co., Inc., Louisville, Ky.

**—(Portable.)**

O. K. Clutch &amp; Mch. Co., Columbia, Pa.

**ENGINEERS (Airports.)**MacElwee & Crandall, Inc., Cambridge, Mass.  
Shaw Co., Russell B., St. Louis, Mo.**—(Appraisal.)**Ballinger Co., Philadelphia, Pa.  
Battley & Kipp, Inc., Chicago, Ill.  
Fay, Spofford & Thorndike, Boston, Mass.  
Fay, Spofford & Thorndike, Boston, Mass.  
Harrison, Wm. Henry, Washington, D. C.  
Lockwood Greene Engrs., Inc., New York City.Ludlow Engineers, Winston-Salem, N. C.  
Main, Inc., Chas. T., Boston, Mass.  
Sanderson & Porter, New York, N. Y.  
Wadleigh & Bailey, Washington, D. C.  
White Engineering Corp., J. G., New York.Wiedeman and Singleton, Inc., Atlanta.  
Williamson, Lee H., Charlottesville, Va.**—(Aviation.)**

Shaw Co., Russell B., St. Louis, Mo.

**—(Bridge.)**Atlantic Bridge Co., Greensboro, N. C.  
Billingsley, James W., New Orleans, La.  
Fay, Spofford & Thorndike, Boston, Mass.  
Freeland, Roberts & Co., Nashville, Tenn.  
Greiner & Co., J. E., Baltimore, Md.  
Greiner & Co., J. E., Baltimore, Md.  
Hardaway Contracting Co., Columbus, Ga.  
Hedrick, Inc., Ira G., Hot Springs, Nat'l Park, Ark.  
Howerton Engineering Co., Asheville, N. C.  
Steel & Leiby, Knoxville, Tenn.  
Turner, C. A. P., Minneapolis, Minn.  
Virginia Bridge & Iron Co., Roanoke, Va.  
Wheeler, Walter H., Minneapolis, Minn.**—(Chemical.)**Barrow-Agee Laboratories, Memphis, Tenn.  
Dow & Smith, New York, N. Y.  
Flood & Co. Walter H., Chicago, Ill.  
Picard Laboratories, Birmingham, Ala.  
Pittsburgh Testing Laboratories, Pittsburgh, Pa.**—(Civil.)**Airmap Corp. of Amer., Brooklyn, N. Y.  
Battley & Kipp, Inc., Chicago, Ill.  
Charlton & Davis, Ft. Lauderdale, Fla.  
Fuller & McClintock, New York, N. Y.  
Gardner & Howe, Memphis, Tenn.  
Greiner & Co., J. E., Baltimore, Md.  
Harrub Engr. Co., C. N., Nashville, Tenn.  
Hedrick, Inc., Ira G., Hot Springs, Nat'l Park, Ark.  
Hills Co. George B., Jacksonville, Fla.  
MacElwee & Crandall, Inc., Cambridge, Mass.  
Main, Inc., Chas. T., Boston, Mass.  
Platt, William M., Durham, N. C.  
Spoon & Lewis, Greensboro, N. C.  
Spring, Charles Herbert, Greensboro, N. C.  
Steel & Leiby, Knoxville, Tenn.  
White Engr. Corp., J. G., New York.**—(Consulting.)**Airmap Corp. of Amer., Brooklyn, N. Y.  
Barstow & Co., W. S., Reading, Pa.  
Biggs Engr. Co., W. E., Knoxville, Tenn.  
Charlton & Davis, Ft. Lauderdale, Fla.  
Converse & Co., J. B., Mobile, Ala.  
Engineering Service Corp., Houston, Tex.  
Harrison, Wm. Henry, Washington, D. C.  
Harris Engineering Co., Chicago.  
Hedrick, Inc., Ira G., Hot Springs, Nat'l Park, Ark.  
Herty, Charles H., New York City.  
Lockwood Greene Engrs., Inc., New York City.  
Main, Inc., Chas. T., Boston, Mass.  
Simmons, Inc. & Associates, B. Stanley, Washington, D. C.  
Smith, Elroy G., Augusta, Ga.  
Stillman & Van Stien, New York, N. Y.  
Wadleigh & Bailey, Washington, D. C.  
White Engineering Corp., J. G., New York.  
Wiedeman & Singleton, Inc., Atlanta, Ga.  
Williamson, Lee H., Charlottesville, Va.



**(Dams.)**

Alpaugh & Sons, Chas. W., Manassas, Va.  
 Battey & Kipp, Inc., Chicago, Ill.  
 Byllesby Engineering and Management Corp., Chicago, Ill.  
 Floyd & Lochridge, Dallas, Texas.  
 Gardner & Howe, Memphis, Tenn.  
 Hardaway Contracting Co., Columbus, Ga.  
 Harza Engineering Co., Chicago.  
 Hedrick Inc., Ira G., Hot Springs Nat'l. Park, Ark.  
 Lee, William S., Charlotte, N. C.  
 Main, Inc., Chas. T., Boston, Mass.  
 Sillrine & Co., J. E., Greenville, S. C.  
 Tucker & Laxton, Charlotte, N. C.  
 Wheeler, Walter H., Minneapolis, Minn.  
 White Engr. Corp., J. G., New York.

**(Drainage and Irrigation.)**

Floyd & Lochridge, Dallas, Texas.  
 Ford, Bacon & Davis, Inc., New York.  
 Fuller & McClintock, New York, N. Y.  
 Hills Co., George B., Jacksonville, Fla.  
 Ludlow Engineers, Winston-Salem, N. C.

**(Efficiency.)**

Barstow & Co., W. B., Reading, Pa.  
 Ernst & Ernst, New York, N. Y.

**(Electrical.)**

Battey & Kipp, Inc., Chicago, Ill.  
 Engineering Service Corp., Houston, Texas.  
 Hoosier Engineering Co., Chicago, Ill.  
 Lee, William S., Charlotte, N. C.  
 Lockwood Greene Engrs., Inc., New York City.  
 Main, Inc., Chas. T., Boston, Mass.  
 Mullerengren, Arthur L., Kansas City, Mo.  
 Sanderson & Porter, New York, N. Y.  
 Stone & Webster, Inc., Boston, Mass.  
 Tucker & Laxton, Charlotte, N. C.  
 Webb Electric Co., Anderson, S. C.  
 White Co., Gilbert C., Durham, N. C.  
 Wiley & Wilson, Lynchburg, Va.

**(Electric-Light and Power Plants.)**

Battey & Kipp, Inc., Chicago, Ill.  
 Biggs Eng. Co., W. E., Knoxville, Tenn.  
 Byllesby Engineering and Management Corp., Chicago, Ill.  
 Ford, Bacon & Davis, Inc., New York.  
 Lee, William S., Charlotte, N. C.  
 Main, Inc., Chas. T., Boston, Mass.  
 Mullerengren, Arthur L., Kansas City, Mo.  
 Sanderson & Porter, New York, N. Y.  
 Scofield Engineering Co., Phila., Pa.  
 Stone & Webster, Inc., Boston, Mass.  
 Tucker & Laxton, Charlotte, N. C.  
 White Engineering Corp., J. G., New York.  
 White Co., Gilbert C., Durham, N. C.

**(Flood Control.)**

Floyd & Lochridge, Dallas, Texas.  
 Harza Engineering Co., Chicago.

**(Forest.)**

Lacey & Co., Jas. D., New York, N. Y.

**(Gas.)**

Byllesby Engineering and Management Corp., Chicago, Ill.  
 Ford, Bacon & Davis, Inc., New York.  
 Harrison, William Henry, Washington, D. C.

**(Geological.)**

De Kalb, Courtenay, New York City.  
 Froehling & Robertson, Richmond, Va.  
 Harrison, William Henry, Washington, D. C.  
 Wadleigh & Bailey, Washington, D. C.

**(Harbor Improvements.)**

Billingsley, James W., New Orleans, La.  
 Engineering Service Corp., Houston, Texas.  
 Fay, Spofford & Thorndike, Boston, Mass.

**(Heating.)**

Battey & Kipp, Inc., Chicago, Ill.  
 Biggs Eng. Co., W. E., Knoxville, Tenn.  
 Wiley & Wilson, Lynchburg, Va.

**(Hydraulic.)**

Alpaugh & Sons, Chas. W., Manassas, Va.  
 Floyd & Lochridge, Dallas, Texas.  
 Fuller & McClintock, New York, N. Y.  
 Harza Engineering Co., Chicago.  
 Main, Inc., Chas. T., Boston, Mass.

**(Hydro-electric.)**

Alpaugh & Sons, Chas. W., Manassas, Va.  
 Battey & Kipp, Inc., Chicago, Ill.  
 Byllesby Engineering and Management Corp., Chicago, Ill.  
 Harza Engineering Co., Chicago.  
 Lee, William S., Charlotte, N. C.  
 Ludlow Engineers, Winston-Salem, N. C.  
 Main, Inc., Chas. T., Boston, Mass.  
 Mees & Mees, Charlotte, N. C.  
 Platt, William M., Durham, N. C.  
 Sanderson & Porter, New York, N. Y.  
 Scofield Engineering Co., Phila., Pa.  
 Sillrine & Co., J. E., Greenville, S. C.  
 Tucker & Laxton, Charlotte, N. C.  
 White Engineering Corp., J. G., New York.

**(Ice and Refrigerating.)**

Engineering Service Corp., Houston, Texas.

**(Industrial Plants.)**

Ballinger Co., Philadelphia, Pa.  
 Barstow & Co., W. B., Reading, Pa.  
 Battey & Kipp, Inc., Chicago, Ill.  
 Biggs Eng. Co., W. E., Knoxville, Tenn.  
 Billingsley, James W., New Orleans, La.  
 Charleston Contractors, Inc., Charleston, S. C.  
 Conner, Older & Quinlan, Inc., Chicago.  
 Converse & Co., J. B., Mobile, Ala.  
 Fay, Spofford & Thorndike, Boston, Mass.  
 Gardner & Howe, Memphis, Tenn.  
 Greiner & Co., J. E., Baltimore, Md.  
 Herty, Charles H., New York City.

Hills Co., George B., Jacksonville, Fla.  
 Lockwood Greene Engrs., Inc., New York City.

MacElwase & Crandall, Inc., Cambridge, Mass.

Main, Inc., Chas. T., Boston, Mass.

Mees & Mees, Charlotte, N. C.

Morgan Constr. Co., Worcester, Mass.

Mullerengren, Arthur L., Kansas City, Mo.

Freacher & Co., Inc., G. Lloyd, Atlanta.

Sanderson & Porter, New York, N. Y.

Scofield Engineering Co., Phila., Pa.

Simmons, Inc. & Associates, B. Stanley, Washington, D. C.

Sillrine & Co., J. E., Greenville, S. C.

Smith, Elroy G., Augusta, Ga.

Stone & Webster, Inc., Boston, Mass.

Turner, C. A. P., Minneapolis, Minn.

Widmer Engineering Co., St. Louis, Mo.

Williamson, Lee H., Charlottesville, Va.

**(Industrial Survey.)**

Converse & Co., J. B., Mobile, Ala.

Herty, Charles H., New York City.

Lockwood Greene Engrs., Inc., New York City.

Wadleigh & Bailey, Washington, D. C.

**(Inspection and Tests.)**

Barrow-Agee Laboratories, Memphis, Tenn.

Conard & Busby, Burlington, N. J.

Dow & Smith, New York, N. Y.

Flood & Co., Walter H., Chicago, Ill.

Froehling & Robertson, Inc., Richmond, Va.

Hunt Co., Robert W., Chicago, Ill.

Picard Laboratories, Birmingham, Ala.

Pittsburgh Testing Laboratories, Pittsburgh, Pa.

Southwestern Laboratories, Ft. Worth, Texas.

**(Landscapes.)**

Draper, E. S., Charlotte, N. C.

**(Lighting.)**

Battey & Kipp, Inc., Chicago, Ill.

Byllesby Engineering and Management Corp., Chicago, Ill.

Ford, Bacon & Davis, Inc., New York.

General Electric Vapor Lamp Co., Hoboken, N. J.

Wiley & Wilson, Lynchburg, Va.

**(Mechanical.)**

Battey & Kipp, Inc., Chicago, Ill.

Charlton & Davis, Ft. Lauderdale, Fla.

Engineering Service Corp., Houston, Texas.

Invicta Engineering Co., Birmingham, Ala.

Lee, William S., Charlotte, N. C.

Lockwood Greene Engrs., Inc., New York City.

Main, Inc., Chas. T., Boston, Mass.

Mees & Mees, Charlotte, N. C.

Moigs, Bassett & Slaughter, Phila., Pa.

Sanderson & Porter, New York, N. Y.

Wiley & Wilson, Lynchburg, Va.

**(Metal Protection.)**

Dixie Electro Plating Co., Houston, Tex.

**(Mining. See Engineers, Geological.)****(Municipal.)**

Billingsley, James W., New Orleans, La.

Conner, Older & Quinlan, Inc., Chicago.

Dow & Smith, New York, N. Y.

Harrub Engr. Co., C. N., Nashville, Tenn.

Hills Co., George B., Jacksonville, Fla.

Howerton Engineering Co., Asheville, N. C.

Knowles, Inc., Morris, Pittsburgh, Pa.

Ludlow Engineers, Winston-Salem, N. C.

McCrary Co., The J. B., Atlanta, Ga.

Spoon & Lewis, Greensboro, N. C.

White Co., Gilbert C., Durham, N. C.

**(Paving and Roads.)**

Billingsley, James W., New Orleans, La.

Dow & Smith, New York, N. Y.

Freeland, Roberts & Co., Nashville, Tenn.

Harrub Engr. Co., C. N., Nashville, Tenn.

Howerton Engineering Co., Asheville, N. C.

Platt, William M., Durham, N. C.

Spoon & Lewis, Greensboro, N. C.

White Co., Gilbert C., Durham, N. C.

**(Production.)**

Scofield Engr. Co., Phila., Pa.

**(Public Service Properties.)**

Byllesby Engineering and Management Corp., Chicago, Ill.

Ford, Bacon & Davis, Inc., New York.

Fuller & McClintock, New York, N. Y.

Knowles, Inc., Morris, Pittsburgh, Pa.

Main, Inc., Chas. T., Boston, Mass.

Sanderson & Porter, New York, N. Y.

Scofield Engineering Co., Phila., Pa.

Stone & Webster, Inc., Boston, Mass.

White Engineering Corp., J. G., New York.

**(Railroad.)**

Mees & Mees, Charlotte, N. C.

**(Reinforced Concrete Bridges, Buildings, etc.)**

Atlantic Bridge Co., Greensboro, N. C.

Ballinger Co., Philadelphia, Pa.

Battey & Kipp, Inc., Chicago, Ill.

Fay, Spofford & Thorndike, Boston, Mass.

Freeland, Roberts & Co., Nashville, Tenn.

Gardner & Howe, Memphis, Tenn.

Greiner & Co., J. E., Baltimore, Md.

Lockwood Greene Engrs., Inc., New York City.

Main, Inc., Chas. T., Boston, Mass.

Steel & Leiby, Knoxville, Tenn.

Tucker & Laxton, Charlotte, N. C.

Turner, C. A. P., Minneapolis, Minn.

Wheeler, Walter H., Minneapolis, Minn.

**(Research and Development.)**

Invicta Engineering Co., Birmingham, Ala.

**(Sanitary.)**

Harza Engineering Co., Chicago.

**(Sewage Disposal Plants.)**

Fuller & McClintock, New York, N. Y.

Ludlow Engineers, Winston-Salem, N. C.

McCrary Co., The J. B., Atlanta, Ga.

Platt, William M., Durham, N. C.

Wiedeman and Singleton, Inc., Atlanta.

**(Sewerage and Waterworks.)**

Conard & Busby, Burlington, N. J.

Conner, Older & Quinlan, Inc., Chicago.

Ford, Bacon & Davis, Inc., New York.

Fuller & McClintock, New York, N. Y.

Hardaway Contracting Co., Columbus, Ga.

Harrub Engr. Co., C. N., Nashville, Tenn.

Hills Co., George B., Jacksonville, Fla.

Howerton Engineering Co., Asheville, N. C.

Knowles, Inc., Morris, Pittsburgh, Pa.

Ludlow Engineers, Winston-Salem, N. C.

Mees & Mees, Charlotte, N. C.

Platt, William M., Durham, N. C.

Sanderson & Porter, New York, N. Y.

Spoon & Lewis, Greensboro, N. C.

Tucker & Laxton, Charlotte, N. C.

White Co., Gilbert C., Durham, N. C.

White Engineering Corp., J. G., New York.

Wiedeman & Singleton, Inc., Atlanta, Ga.

Williamson, Lee H., Charlottesville, Va.

**(Structural.)**

Freeland, Roberts & Co., Nashville, Tenn.

Hedrick, Inc., Ira G., Hot Springs Nat'l. Park, Ark.

Hills Company, Geo. B., Jacksonville, Fla.

Lockwood Greene Engrs., Inc., New York City.

Simmons, Inc. & Associates, B. Stanley, Washington, D. C.

Turner, C. A. P., Minneapolis, Minn.

Virginia Bridge & Iron Co., Roanoke, Va.

**(Textile Mills.)**

Ballinger Co., Philadelphia, Pa.

Lockwood Greene Engrs., Inc., New York City.

**(Transmission Lines.)**

Hoosier Engineering Co., Chicago, Ill.

**(Ventilating and Heating.)**

Biggs Eng. Co., W. E., Knoxville, Tenn.

Wiley & Wilson, Lynchburg, Va.

**(Water Supply.)**

Floyd & Lochridge, Dallas, Texas.

**ENGINES (Compressed Air.)**

Duke Engine Co., Grand Haven, Mich.

**(Diesel Type.)**

Fairbanks, Morse & Co., Chicago, Ill.

**(Gas and Gasoline.)**

Light Mfg. & Fdry. Co., Pottstown, Pa.

Novo Engine Co., Lansing, Mich.

Sterling Engine Co., Buffalo, N. Y.

**(Gas and Oil.)**

Chicago Pneumatic Tool Co., New York.

**(Hoisting.)**

Clyde Iron Works Sales Co., Duluth, Minn.

Mundy Hoisting Engine Co., J. S., Newark, N. J.

**(Marine.)**

Fairbanks, Morse & Co., Chicago, Ill.

**(Oil.)**

Ingersoll-Rand Co., New York, N. Y.

Continental Oil Co., Birmingham, Ala.

**(Steam.)**

Allis-Chalmers Mfg. Co., Milwaukee, Wis.

Cole Mfg. Co., R. D., Newnan, Ga.

Lefel & Co., The James, Springfield, O.

Lombard Iron Works & Supply Co., Augusta, Ga.

Morris Machine Works, Baldwinville, N. Y.

Schofield's Sons Co., J. S., Macon, Ga.

**ENVELOPES.**

Young & Seldon Co., Baltimore, Md.

**ESTIMATORS (Building & Construction.)**

Spring, Charles Herbert, Greensboro, N. C.

**EXCAVATING MACHINERY.**

Bay City Shovel, Inc., Bay City, Mich.

Buckeye Traction Ditcher Co., Findlay, O.

Bucyrus-Erie Co., Erie, Penna.

Clyde Iron Works Sales Co., Duluth, Minn.

Harnischfeger Corp., Milwaukee, Wis.

Hayward Co., The, New York, N. Y.

Industrial Brownhoist Corp., Cleveland.

Monaghan Mfg. Corp., Chicago, Ill.

National Equipment Corp. (Kochring, Insley, Parsons), Milwaukee, Wis.

Northwest Engineering Co., Chicago, Ill.

Owen Bucket Co., The, Cleveland, Ohio.

Thew Shovel Co., The, Lorain, Ohio.

Universal Power Shovel Co., Milwaukee, Wis.

**EXCAVATORS (Clamshell and Orange Peel.)**

Northwest Engineering Co., Chicago, Ill.

Ohio Power Shovel Co., Lima, Ohio.

Thew Shovel Co., Lorain, Ohio.

**(Dragline. See Dragline Excavators.)****(Trench.)**

Barber-Greene Co., Aurora, Ill.

Bay City Shovel, Inc., Bay City, Mich.

Buckeye Traction Ditcher Co., Findlay, O.

Bucyrus-Erie Co., Erie, Penna.

National Cast Iron Pipe Co., Birmingham, Ala.  
Taylor Forge & Pipe Wks., Chicago, Ill.  
U. S. Pipe & Foundry Co., Burlington, N. J.  
Vogt Mch. Co., Henry, Louisville, Ky.  
—and Flanged Fittings.  
Grinnell Co., Inc., Providence, R. I.

**FLOOR (Cork Composition.)**  
Congoleum-Nairn Inc., Kearny, N. J.  
—(Hardwood, Maple, Oak.)  
Kirby Lumber Co., Houston, Tex.  
Nashville Hardwood Flooring Co., Nashville, Tenn.

—(Linoleum).  
Congoleum-Nairn Inc., Kearny, N. J.  
—(Northern Hard Maple.)  
Holt Hardwood Co., Oconto, Wis.

—(Open Steel.)  
Blaw-Knox Co., Pittsburgh, Pa.  
Irving Iron Works Co., Long Is. City, N. Y.  
Kerlow Steel Flooring Co., Jersey City, N. J.

—Covering.  
Congoleum-Nairn Inc., Kearny, N. J.

—Hardener (Concrete).  
Sonneborn Sons, Inc., L. New York.  
Stonhard Co., Phila., Pa.

—Plates and Stair Treads.  
American Pressed Steel Co., Phila., Pa.  
Central Iron & Steel Co., Harrisburg, Pa.  
Ryerson & Son, Inc., Jos. T., St. Louis and New York.

—Steel (For Concrete Culverts, Roads, Streets.)  
Blaw-Knox Co., Pittsburgh, Pa.

—Wax.  
Congoleum-Nairn Inc., Kearny, N. J.

—(Wood) Preservative.  
Stonhard Co., Phila., Pa.

**FLUSH-TANK SIPHONS.**  
Pacific Flush-Tank Co., New York, N. Y.

**FLYER PRESSERS.**  
Southern Spindle & Flyer Co., Charlotte, N. C.

**FLYERS.**  
Southern Spindle & Flyer Co., Charlotte, N. C.

**FORGINGS (Drop.)**  
Vogt Mch. Co., Henry, Louisville, Ky.

**FORMS, Steel (For Concrete, Culverts, Roads, Streets, Curbs, Sidewalks, Tiles.)**  
Blaw-Knox Co., Pittsburgh, Pa.

**FOUNDATION MASONRY.**  
Calligan Co., A. H., Richmond, Va.

**FOUNDRIES and Machine Shops.**  
Deemer Steel Casting Co., New Castle, Del.  
General Machine Works, York, Pa.  
Glamorgan Pipe & Fdry. Co., Lynchburg, Va.  
Goldens' Fdry. & Mch. Co., Columbus, Ga.  
Lombard Iron Works & Supply Co., Augusta, Ga.  
Moccasin Bushing Co., Chattanooga, Tenn.  
Mountain States Steel Foundries Parkersburg, W. Va.

**FOUNDRIY Equipment and Supplies.**  
Chain Belt Co., Milwaukee, Wis.  
Hill & Griffith Co., The Cincinnati, O.  
Whiting Corp., Harvey, Ill.

—Facing (Talc and Soap-stone).  
Hill & Griffith Co., The Cincinnati, O.

**FUMIGATORS (Fruit, Nuts, Nursery Stock, etc.)**  
Union Tank & Pipe Co., Los Angeles, Cal.

**FURNACES (Industrial.)**  
Combustion Engr., Corp., New York City.  
—(Water-Cooled.)  
Combustion Engr. Corp., New York City.  
Fuller Lehigh Co., Fullerton, Pa.

**GALVANIZED Products.**  
Birmingham Galvanizing Co., Birmingham, Ala.  
Cattle & Bros., Jos. P., Philadelphia, Pa.

—Steel and Iron.  
American Rolling Mill Co., Middletown, O.  
American Sheet & Tin Plate Co., Pittsburgh, Pa.

Granite City Steel Co., Granite City, Ill.  
Republic Steel Corp., Youngstown, Ohio.

**GALVANIZING (Cadmium Plating.)**  
Birmingham Galvanizing Co., Birmingham, Ala.

—(Hot Dip.)  
Bessemer Galvanizing Works, Birmingham, Ala.  
Birmingham Galvanizing Co., Birmingham, Ala.  
Cattle & Bros., Jos. P., Philadelphia, Pa.  
Newport News Shipbuilding & Drydock Co., Newport News, Va.

**GARAGES (Metal.)**  
Maryland Metal Building Co., Balto., Md.

**GAS HOLDERS.**  
Chattanooga Boiler & Tank Co., Chattanooga, Tenn.  
Chicago Bridge & Iron Works, Atlanta, Ga.

—Producers.  
Gas-O-Flame Stove Works, Port Deposit, Md.  
Morgan Construction Co., Worcester, Mass.  
Wood & Co., R. D., Philadelphia, Pa.

**GASOLINE and KEROSENE.**  
Gulf Refining Co., Pittsburgh, Pa.

**GASOLINE SHOVELS (See Shovels.)**

**GATES (Automatic Drainage.)**  
Armes Culvert Mfr. Assn., Middletown, O.  
Dirle Culvert & Metal Co., Atlanta, Ga.  
Dirle Culvert Mfg. Co., Little Rock, Ark.  
Louisiana Corr. Culvert Co., Baton Rouge, La.  
Tenn. Metal Culvert Co., Nashville, Tenn.  
Western Metal Mfg. Co., Houston, Texas.

**GAUGE GLASSES.**  
Jenkins Bros., New York, N. Y.

**GEARS.**  
DeLaval Steam Turbine Co., Trenton, N. J.  
Earle Gear & Machine Co., Phila., Pa.  
General Electric Co., Schenectady, N. Y.

—(Worm Reduction.)  
DeLaval Steam Turbine Co., Trenton, N. J.

**GENERATORS, MOTORS (New.)**  
Allis-Chalmers Mfg. Co., Milwaukee, Wis.  
General Electric Co., Schenectady, N. Y.  
Howell Electric Motors Co., Howell, Mich.  
Westinghouse Elec. & Mfg. Co., E. Pittsburgh, Pa.

—(Used.)  
Belyea Co., Inc., New York City.  
Electrical Equip. Co., Raleigh, N. C.  
Gregory Electric Co., Chicago.  
Nashville Ind. Corp., Old Hickory, Tenn.  
Nussbaum & Co., V. M., Ft. Wayne, Ind.  
O'Brien Machinery Co., Phila., Pa.  
Randle Machinery Co., The Cincinnati, O.  
Stewart Elec. Co., John A., Cincinnati.

**GEOLOGISTS. (See Engineers, Geological.)**

**GLASS (Art.)**  
Binwanger & Co., Memphis, Tenn.  
Hires Turner Glass Co., Philadelphia, Pa.

—(Plate.)  
Binwanger & Co., Inc., Memphis, Tenn.  
Blue Ridge Glass Corp., Kingsport, Tenn.  
Hires Turner Glass Co., Philadelphia, Pa.

—(Window.)  
Blue Ridge Glass Corp., Kingsport, Tenn.  
Hires Turner Glass Co., Philadelphia, Pa.

—(Wire.)  
Blue Ridge Glass Corp., Kingsport, Tenn.  
Hires Turner Glass Co., Phila., Pa.

**GRADERS (Elevating.)**  
Caterpillar Tractor Co., San Leandro, Calif.

—(One Man Motor.)  
Riddell Co., W. A., Bucyrus, Ohio.

**GRAPHITE.**  
Dixon Crucible Co., Jos., Jersey City, N. J.

**GRATES and Grate Bars.**  
Schofield's Sons Co., J. S., Macon, Ga.  
Vogt Machine Co., Henry, Louisville, Ky.

**GRATING (Area, Flooring, Sidewalk.)**  
Bates Steel Corp., Walter, Gray, Ind.  
Blaw-Knox Co., Pittsburgh, Pa.

Hendrick Mfg. Co., Carbondale, Pa.  
Irving Iron Works, Long Is. City, N. Y.  
Kerlow Steel Flooring Co., Jersey City, N. J.

**GRAVEL (Roofing and Road.)**  
American Limestone Co., Knoxville, Tenn.  
Arundel Corp., The, Baltimore, Md.  
Boxley & Co., W. W., Roanoke, Va.  
Friend & Co., Inc., Petersburg, Va.

**GREASE CUPS.**  
Lunkenheimer Co., The, Cincinnati, O.

**GRILLES (Brass, Bronze, Steel, etc.)**  
Manhattan Perforated Metal Co., Inc., Long Island City, N. Y.

**GRINDERS (Electric.)**  
Chicago Pneumatic Tool Co., New York.

—(Gypsum, Limestone, etc.)  
Raymond Bros. Impact Pulv. Co., Chicago.

**GRINDING MACHINERY (Flexible Shaft.)**  
Strand & Co., N. A., Chicago, Ill.

—Wheels.  
Carborundum Co., Niagara Falls, N. Y.

**GUARD RAIL (Road.)**  
National Traffic Guard Co., Atlanta.

**GUNITE CONSTRUCTION.**  
Cement-Gun Co., Inc., Allentown, Pa.  
Cement Gun Construction Co., Chicago.  
Gunite Conc. & Constr. Co., Kansas City.  
Gunite Constr. Co., New York City.  
Rust Engineering Co., Birmingham, Ala.

**GUNPOWDER.**  
Du Pont de Nemours & Co., Inc., E. I., Wilmington, Del.  
Hercules Powder Co., Inc., Wilmington, Del.

**GUNS (Hydraulic.)**  
Georgia Iron Works, Augusta, Ga.

**HANGARS (Airplane.)**  
Blaw-Knox Co., Pittsburgh, Pa.  
Braden Steel Corp., Tulsa, Okla.  
Ingalls Iron Works, Birmingham, Ala.  
Maryland Metal Bldg. Co., Balto., Md.

**HANGERS (Door, All Kinds.)**  
Richards-Wilcox Mfg. Co., Aurora, Ill.  
—(Line Shaft.)  
American Pulley Co., Philadelphia, Pa.  
Wood's Sons Co., T. B., Chambersburg, Pa.

**HARBOR IMPROVEMENTS.**  
Arundel Corp., Baltimore, Md.  
Atlantic, Gulf & Pacific Co., New York.

**HARDWARE (Door.)**  
Richards-Wilcox Mfg. Co., Aurora, Ill.

**HEATERS (Asphalt.)**  
Honhorst Co., Jos., Cincinnati, O.

**HEATING Apparatus (Engineers and Contractors.)**  
Grinnell Co., Inc., Providence, R. I.  
Poe Piping & Heating Co., Greenville, S. C.  
Skinner Bros. Mfg. Co., St. Louis, Mo.

—Systems.  
Clarage Fan Co., Kalamazoo, Mich.  
Skinner Bros. Mfg. Co., St. Louis, Mo.

**HOISTING MACHINERY.**  
Clyde Iron Works Sales Co., Duluth, Minn.  
Lidgerwood Mfg. Co., Elizabeth, N. J.

**HOISTS (Air Portable.)**  
Ingersoll-Rand Co., New York, N. Y.  
Sullivan Machinery Co., Chicago, Ill.

—(Chain.)  
Harrington Co., The, Philadelphia, Pa.

—(Electric.)  
Clyde Iron Works Sales Co., Duluth, Minn.

Harnischfeger Corp., Milwaukee, Wis.  
Milwaukee Elec. Crane & Hoist Corp., Milwaukee, Wis.

Mundy Hoisting Engine Co., J. S., Newark, N. J.  
Novo Engine Co., Lansing, Mich.  
O. K. Clutch & Machy. Co., Columbia, Pa.  
Street Bros. Mch. Wks., Chattanooga, Tenn.

—(Gasoline.)  
Clyde Iron Works Sales Co., Duluth, Minn.  
Dake Engine Co., Grand Haven, Mich.  
Mundy Hoisting Engine Co., J. S., Newark, N. J.

National Equipment Corp. (C. H. & E. Division), Milwaukee, Wis.  
Novo Engine Co., Lansing, Mich.  
O. K. Clutch & Machy. Co., Columbia, Pa.  
Street Bros. Mch. Wks., Chattanooga, Tenn.

—(Hand Power.)  
O. K. Clutch & Machy. Co., Columbia, Pa.

—(Steam.)  
Clyde Iron Works Sales Co., Duluth, Minn.

Dake Engine Co., Grand Haven, Mich.  
Mundy Hoisting Engine Co., J. S., Newark, N. J.  
Street Bros. Mch. Wks., Chattanooga, Tenn.

**HOOPS, Bands, etc. (Galvanized.)**  
Connors Steel Co., Birmingham, Ala.

**HOPPERS (Aggregate, Measuring and Weighing.)**  
Blaw-Knox Co., Pittsburgh, Pa.

**HOSE (Rubber.)**  
Republic Rubber Co., Youngstown, Ohio.

**HOTELS.**  
Helm Hotel Systems, St. Louis, Mo.  
Southern Hotel, The, Baltimore, Md.

**HOUSE MOVING.**  
Eichleay, Jr. Co., John, Pittsburgh.

**HULLS (Steel.)**  
American Steel Dredge Co., Fort Wayne, Ind.

**HUMIDIFYING AND DRYING EQUIPMENT.**  
Grinnell Co., Inc., Providence, R. I.  
Skinner Bros. Mfg. Co., St. Louis, Mo.

**HYDRANTS (Fire.)**  
Ludlow Valve Mfg. Co., The, Troy, N. Y.  
Myers & Bro. Co., The, F. E., Ashland, O.  
Vogt Brothers Mfg. Co., Louisville, Ky.  
Wood & Co., R. D., Philadelphia, Pa.

**HYDRO - ELECTRIC POWER COMPANIES (Offering Industrial and Commercial Opportunities.)**  
Alabama Power Co., Birmingham, Ala.  
Central Power & Light Co., San Antonio, Georgia Power Co., Atlanta, Ga.  
Texas Power & Light Co., Dallas, Texas.

**ICE and Refrigerating Machinery and Supplies.**  
Ingersoll-Rand Co., New York, N. Y.  
Vogt Mch. Co., Henry, Louisville, Ky.

**INCINERATORS.**  
Duplex Hanger Co., Cleveland, Ohio.

**INCORPORATORS.**  
Corporation Service Co., Wilmington, Del.  
Delaware Registration Trust Co., Wilmington, Del.

**INJECTORS.**  
Jenkins Bros., New York, N. Y.  
Randle Machinery Co., The Cincinnati, O.

**INSULATING MATERIALS.**  
General Electric Co., Schenectady, N. Y.  
Okonite Co., New York, N. Y.

**INVESTMENT SECURITIES.**  
Electric Bond & Share Co., New York.  
Gay & Co., W. O., New York City.  
Hanchett Bond Co., Inc., The, Chicago, Ill.  
Marx & Co., Birmingham, Ala.  
Mercantile Trust Co., Baltimore, Md.  
Nuveen & Co., John, Chicago.  
Peabody & Co., Chicago.  
Provident Savings Bank & Trust Co., Cincinnati, Ohio.  
Seasongood & Mayer, Cincinnati, Ohio.  
Taylor, Wilson & Co., Inc., Cincinnati, O.

**IRON.**  
Tennessee Coal, Iron & Railroad Co., Birmingham, Ala.

—(Ingot, For Culverts, etc.)  
American Rolling Mill Co., Middletown, O.

**JOINTS (Pipe.)**  
Leadite Co., The, Philadelphia, Pa.



**JOIST HANGERS.**

Duplex Hanger Co., Cleveland, Ohio.

**KETTLES (Pavers and Roofers.)**

Honhorst Co., Jos., Cincinnati, O.

**LADDERS (Rolling.)**

Myers &amp; Bro. Co., The F. E., Ashland, O.

**—(Wooden.)**Dayton Safety Ladder Co., Cincinnati, O.  
Patent Scaffolding Co., Chicago, Ill.**LAMPS (Incandescent.)**

General Electric Vapor Lamp Co., Hoboken, N. J.

Western Electric Co., New York City.

**LATH (Metal.)**

Ingalls Iron Works Co., Birmingham, Ala.

**LATHES.**

Sebastian Lath Co., Cincinnati, Ohio.

**LIGHTING (Factory and Mill.)**

General Electric Vapor Lamp Co., Hoboken, N. J.

**—Fixtures (Electric.)**

Bensen Brass &amp; Chandler Works, Kansas City, Mo.

Western Electric Co., New York City.

**LININGS (Flue, Fire Clay.)**

Lee Clay Products Co., Clearfield, Ky.

Owensboro Sewer Pipe Co., Owensboro, Ky.

**—(Tube Mill.)**

Fuller Lehigh Co., Fullerton, Pa.

**LINOLEUM (BattleShip, Embossed Inlaid, Inlaid, Jasper.)**

Congoleum-Nairn Inc., Kearny, N. J.

**LITHOGRAPHERS and ENGRAVERS.**

Smith &amp; Son Co., Oscar T., Baltimore, Md.

Young &amp; Selden Co., Baltimore, Md.

**LOADING and UNLOADING MACHINERY (Portable.)**

Barber-Greene Co., Aurora, Ill.

Northwest Engineering Co., Chicago, Ill.

**LOCOMOTIVES (Compressed Air.)**

Porter Co., H. K., Pittsburgh, Pa.

**—(Fireless Stored Steam.)**

Porter Co., H. K., Pittsburgh, Pa.

**—(Gasoline.)**

Porter Co., H. K., Pittsburgh, Pa.

Whitcomb Co., Geo. D., Rochelle, Ill.

**—(Industrial.)**

Birmingham Rail &amp; Locomotive Co., Birmingham, Ala.

Porter Co., H. K., Pittsburgh, Pa.

Southern Iron &amp; Equipment Co., Atlanta, Whitecomb Co., Geo. D., Rochelle, Ill.

**—(Mining.)**

Porter Co., H. K., Pittsburgh, Pa.

Whitcomb Co., Geo. D., Rochelle, Ill.

**—(Railway.)**

Porter Co., H. K., Pittsburgh, Pa.

Southern Iron &amp; Equipment Co., Atlanta, Whitecomb Co., Geo. D., Rochelle, Ill.

**LOGGING MACHINERY.**

Clyde Iron Works Sales Co., Duluth, Minn.

**LOOM PICK COUNTER**

Veeber-Root, Inc., Hartford, Conn.

**LUBRICANTS.**

Dixon Crucible Co., Jos., Jersey City, N. J.

Gulf Refining Co., Pittsburgh, Pa.

**LUBRICATORS (Force Feed.)**

Lunkenheimer Co., The, Cincinnati, O.

**LUMBER (Ceiling, Flooring, Siding.)**

Industrial Lumber Co., Elizabeth, La.

Kirby Lumber Co., Houston, Texas.

**—(Creosoted.)**

Amer. Creosote Wks., Inc., New Orleans, La.

Amer. Creosoting Co., Inc., Louisville, Ky.

Ayer &amp; Lord Tie Co., Inc., Chicago, C. C.

Carolina Wood Preserving Co., Charleston, S. C.

Delaware Wood Preserving Co., Phila.

Eppinger &amp; Russell Co., New York, N. Y.

Gulf States Creos. Co., Hattiesburg, Miss.

Savannah Creos. Co., Savannah, Ga.

**—(Heavy Construction, Pitch, Pine, etc.)**

Brooks-Scanlon Corp., Foley, Florida.

Industrial Lumber Co., Elizabeth, La.

Kirby Lumber Co., Houston, Texas.

**—Yellow Pine.**

Brooks-Scanlon Corp., Foley, Florida.

**—(Zinc Meta Arsenite Treated.)**

Curtin-Howe Corp., New York City.

**MACHINERY (Special.)**

Bliss Co., E. W., Brooklyn, N. Y.

Earle Gear &amp; Machine Co., Phila., Pa.

Fennholtz Machinery Co., St. Louis, Mo.

General Machine Works, York, Pa.

Whiting Corp., Harvey, Ill.

**—and Supplies (New and Used.)**

Belyea Co., Inc., New York City.

Electric Service Co., Cincinnati, Ohio.

Equip. Sales &amp; Rentals Co., Pittsburgh.

Helmsken Engineering Corp., New York.

Marine Metal &amp; Supply Co., New York.

Nashville Ind. Corp., Old Hickory, Tenn.

O'Brien Machinery Co., The, Phila., Pa.

Randle Machinery Co., The, Cincinnati, O.

Ryerson &amp; Son, Inc., Jos. T., St. Louis and New York.

Seyfert's Sons, Inc., L. F., Phila., Pa.

Zelnicker Supply Co., W. A., St. Louis.

**MACHINE TENDERS (Steel.)**

Angle Steel Steel Co., Plainwell, Mich.

**—(Tools.)**

Ryerson &amp; Son, Inc., Jos. T., St. Louis and New York.

Sebastian Lath Co., Cincinnati, Ohio.

**—(Used.)**

Delta Equipment Co., Philadelphia, Pa.

O'Brien Machinery Co., Phila., Pa.

**MAIL CHUTES.**

Cutler Mail Chute Co., Rochester, N. Y.

**MARBLE (Producers and Manufacturers.)**

Georgia Marble Co., Tate, Ga.

**MATERIAL ELEVATORS.**

National Equipment Corp. (Insley, C. H. &amp; E.), Milwaukee, Wis.

**METAL-Cutting Machinery.**

Earle Gear &amp; Machine Co., Phila., Pa.

**—Working Machinery.**

Bliss Co., E. W., Brooklyn, N. Y.

**MILL MACHINERY and SUPPLIES.**

Lombard Iron Works &amp; Supply Co., Augusta, Ga.

**MINING MACHINERY.**

McLanahan-Stone Machine Co., Hollidaysburg, Pa.

**MIXERS.**

National Equipment Corp. (Koehring, T. L. Smith, Kwik-Mix), Milwaukee, Wis.

**—(Asphalt.)**

Erie Machine Shops, Erie, Pa.

**—(Hot.)**

Koehring Co., Milwaukee, Wis.

**—(Mortar.)**

Chain Belt Co., Milwaukee, Wis.

Jaeger Machine Co., Columbus, Ohio.

**—(Plaster.)**

Blystone Mfg. Co., Cambridge Springs, Pa.

Chain Belt Co., Milwaukee, Wis.

Dunning &amp; Boschert Press Co., Syracuse, N. Y.

Jaeger Machine Co., Columbus, Ohio.

**MORTAR INGREDIENT.**

Louisville Cement Co., Louisville, Ky.

**MOTORS (Electric.)**

Fairbanks, Morse &amp; Co., Chicago, Ill.

General Electric Co., Schenectady, N. Y.

Howell Electric Motors Co., Howell, Mich.

Western Electric Co., New York City.

Westinghouse Elec. &amp; Mfg. Co., E. Pittsburgh, Pa.

**MOTOR TRUCKS.**

International Harvester Co. of America, Inc., Chicago, Ill.

**NAILS (Cut.)**

Reading Iron Co., Reading, Pa.

**—and Spikes.**

American Steel &amp; Wire Co., Balto., Md.

Tennessee Coal, Iron &amp; Railroad Co., Birmingham, Ala.

Youngstown Sheet &amp; Tube Co., Youngstown, Ohio.

**NATURAL GAS COMPANIES.**

(Offering Industrial and Commercial Opportunities.)

Arkansas Natural Gas Corp., Shreveport, La.

**OIL (Fuel and Gas.)**

Gulf Refining Co., Pittsburgh, Pa.

**—Cups.**

Lunkenheimer Co., The, Cincinnati, O.

**ORE-WASHING MACHINERY.**

Georgia Iron Works, Augusta, Ga.

McLanahan Stone Machine Co., Hollidaysburg, Pa.

**ORNAMENTAL BRONZE WORK.**

Heath Co., J. S., Waukegan, Ill.

Michels Art Bronze Co., Covington, Ky.

**—Iron Work.**

Roanoke Iron &amp; Bridge Wks., Roanoke, Va.

Snead Architectural Iron Works, Louisville, Ky.

Southern Engineering Co., Charlotte, N. C.

Stewart Iron Works Co., Cincinnati, O.

**PACKAGE SERVICE (Corrugated Paper.)**

Hinde &amp; Dauch Paper Co., Sandusky, O.

**PACKING (Asbestos, Metallic, Rubber, Leather, etc.)**

Jenkins Bros., New York, N. Y.

Republic Rubber Co., Youngstown, Ohio.

**—Protection (Freight Shipments.)**

Kimberly Clark Corp., Chicago, Ill.

**PAINT (Aluminum.)**

Aluminum Co. of America, Pittsburgh, Pa.

**—(Metal Surfaces.)**

Aluminum Co. of America, Pittsburgh, Pa.

Dixon Crucible Co., Jos., Jersey City, N. J.

**—(Mill White, For Interior.)**

Aluminum Co. of America, Pittsburgh, Pa.

Sonneborn Sons, Inc., L., New York.

**—(Preservative.)**

Cabot, Inc., Samuel, Boston, Mass.

Foster Co., Benjamin, Philadelphia, Pa.

**PANELBOARDS.**

Adam Elec. Co., Frank, St. Louis.

**PAPER BOXES (Corrugated, Shipping.)**

Hinde &amp; Dauch Paper Co., Sandusky, O.

**PARTITIONS (Metal, Folding, Rolling.)**

Kinneair Mfg. Co., The, Columbus, Ohio.

Lupton's Sons Co., David, Phila., Pa.

**—(Sectionfold, Rolling, Wood.)**

Wilson Corp., The, J. G. New York.

**PATENT ATTORNEYS.**

Buck, Sterling P., Washington, D. C.

Coleman, Watson E., Washington, D. C.

Easton, Paul H., Charlotte, N. C.

Sasnet, Edward C., Washington, D. C.

Seymour &amp; Bright, Washington, D. C.

**PATTERNS (Drawing, etc.)**

Hass Pattern Co., A. W., Atlanta, Ga.

**PAVING Blocks (Creosoted Wood.)**

American Creosote Works, New Orleans.

**—(Brick.)**

National Paving Brick Mfrs. Assn., Washington, D. C.

**—Mixers.**

National Equipment Corp. (Koehring, T. L. Smith), Milwaukee, Wis.

**—Plant (Asphalt.)**

Simplicity System Co., Chattanooga, Tenn.

**PENSTOCKS.**

Chattanooga Boiler &amp; Tank Co., Chattanooga, Tenn.

Chicago Bridge &amp; Iron Works, Atlanta.

Pittsburgh-Des Moines Steel Co., Pittsburgh, Pa.

Smith Co., S. Morgan, York, Pa.

**PERFORATED METAL.**

Chicago Perforating Co., Chicago, Ill.

Erdie Perforating Co., Rochester, N. Y.

Harrington &amp; King Perf. Co., Chicago.

Hendrick Mfg. Co., Carbondale, Pa.

Manhattan Perforated Metal Co., Inc., Long Island City, N. Y.

Mundt &amp; Sons, Charles, Jersey City, N. J.

**PETROLEUM REFINERS.**

Gulf Refining Co., Pittsburgh, Pa.

**PHOSPHATE ACID.**

Davison Chemical Co., Baltimore, Md.

**—(Machinery.)**

McLanahan-Stone Machine Co., Hollidaysburg, Pa.

**PIG-IRON.**

Republic Steel Corp., Youngstown, Ohio.

Sloss-Sheffield Steel &amp; Iron Co., Birmingham, Ala.

**Tennessee Coal, Iron & Railroad Co., Birmingham, Ala.****PILE SHOES.**

Janney, Jr., Jos. A., Phila., Pa.

**PILING (Creosoted.)**

Amer. Creosote Wks., Inc., New Orleans.

Amer. Creosoting Co., Inc., Louisville.

Ayer &amp; Lord Tie Co., Inc., Chicago.

Carolina Wood Preserving Co., Charleston, S. C.

Savannah Creosoting Co., Inc., Savannah.

Wales Wood-Preserving Co., Norfolk, Va.

**—(Steel Sheet.)**

Carnegie Steel Co., Pittsburgh, Pa.

Zelnicker Supply Co., W. A., St. Louis.

**PILLOW BLOCKS.**

Goldens' Pdry. &amp; Mch. Co., Columbus, Ga.

**PIPE.**

Albert &amp; Davidson Pipe Corp., Brooklyn, N. Y.

Albert Pipe Sup. Co., Inc., Brooklyn, N. Y.

Arco Culvert Mfrs. Assn., Middletown, Ohio.

Birmingham Boiler &amp; Engr. Co., Birmingham, Ala.

Central Pipe &amp; Sup. Co., Charleston, W. Va.

Greenpoint Iron &amp; Pipe Co., Inc., Brooklyn, N. Y.

Hudson Pipe &amp; Sup. Co., Bayonne, N. J.

Maryland Pipe &amp; Steel Corp., Baltimore, Md.

National Tube Co., Pittsburgh, Pa.

Pittsburgh Piping &amp; Equip. Co., Pittsburgh, Pa.

Power Piping Co., Pittsburgh, Pa.

Smith Corp., A. O., Milwaukee, Wis.

**—(Cast Iron.)**

Amer. Cast Iron Pipe Co., Birmingham.

Cast Iron Pipe Research Assn., Chicago.

Central Foundry Co., The, New York, N. Y.

Glamorgan Pipe &amp; Pdry. Co., Lynchburg, Va.

National Cast Iron Pipe Co., Birmingham, Ala.

U. S. Pipe &amp; Foundry Co., Burlington, N. J.

**—(Dredge.)**

Abendroth &amp; Root Mfg. Co., New York.

**—(Hammer-Welded.)**

National Tube Co., Pittsburgh, Pa.

**—(Iron and Steel.)**

Ryerson &amp; Son, Inc., Jos. T., St. Louis, and New York.

**—(Riveted.)**

Abendroth &amp; Root Mfg. Co., New York.

**—(Second-Hand.)**

Albert &amp; Davidson Pipe Corp., Brooklyn, N. Y.

Albert Pipe Sup. Co., Inc., Brooklyn, N. Y.

Central Pipe &amp; Sup. Co., Charleston, W. Va.

Greenpoint Iron &amp; Pipe Co., Inc., Brooklyn, N. Y.

Hudson Pipe &amp; Supply Co., Bayonne, N. J.

Marine Metal &amp; Supply Co., New York.

Maryland Pipe &amp; Steel Corp., Baltimore, Md.

**—(Spiral Riveted.)**

Abendroth &amp; Root Mfg. Co., New York.

Taylor Forge &amp; Pipe Wks., Chicago, Ill.

**—(Steel.)**

Bethlehem Steel Co., Bethlehem, Pa.

National Tube Co., Pittsburgh, Pa.

Pittsburgh Piping &amp; Equip. Co., Pittsburgh, Pa.

Power Piping Co., Pittsburgh, Pa.

Republic Steel Corp., Youngstown, Ohio.

Smith Corp., A. O., Milwaukee, Wis.

Youngstown Sheet &amp; Tube Co., Youngstown, Ohio.

**—(Wrought Iron**

**PLATES (Steel.)**

Bethlehem Steel Co., Bethlehem, Pa.  
Carnegie Steel Co., Pittsburgh, Pa.  
Central Iron & Steel Co., Harrisburg, Pa.  
Chattanooga Boiler & Tank Co., Chattanooga, Tenn.  
Granite City Steel Co., Granite City, Ill.  
Gulf States Steel Co., Birmingham, Ala.  
Harrison & Son, Inc., Jos. T., St. Louis and New York.  
Tennessee Coal, Iron & Railroad Co., Birmingham.

**PNEUMATIC TOOLS.**

Chicago Pneumatic Tool Co., New York.  
Ingersoll-Rand Co., New York, N. Y.

**POLES (Creosoted.)**

Amer. Creosote Wks., Inc., New Orleans.  
Amer. Creosoting Co., Inc., Louisville, Ky.  
Ayer & Lord Tie Co., Inc., Chicago.  
Brown Wood Preserving Co., Louisville, Ky.  
Carolina Wood Preserving Co., Charleston, S. C.  
Savannah Creosoting Co., Savannah, Ga.  
Taylor-Colquhoun Co., Spartanburg, S. C.

**(Steel.)**

Rates Steel Corp., Walter, Gray, Ind.  
**(Tubular, Steel.)**  
National Tube Co., Pittsburgh, Pa.  
**(Zinc Meta Arsenite Treated.)**  
Curtin-Howe Corp., New York City.

**POLISHING MACHINERY.**

**(Wheels, Blocks.)**  
Carborundum Co., Niagara Falls, N. Y.

**PORTABLE HOUSES (Metal.)**

Braden Steel Corp., Tulsa, Okla.  
Maryland Metal Building Co., Balto., Md.

**POST CAPS.**

Duplex Hanger Co., Cleveland, Ohio.

**POSTS (Cast Iron, Railway and Highway.)**

U. S. Pipe & Foundry Co., Burlington, N. J.

**POWER TRANSMISSION MACHINERY.**

American Pulley Co., Philadelphia, Pa.  
Diamond Chain & Mfg. Co., Indianapolis.  
Jorden's Fray & Mch. Co., Columbus, Ga.  
Morris Chain Co., Ithaca, N. Y.  
O'Brien Machinery Co., Phila., Pa.  
Rehfeld's Sons Co., J. S., Macon, Ga.  
Wood's Sons Co., T. B., Chambersburg, Pa.  
**(Pumps.)**  
Luitwieler Pumping Engine Co., Rochester, N. Y.

**PREHEATERS (Air.)**

Combustion Engr. Corp., New York City.

**PRESSES (Baling, Cottonseed Oil, Hydraulic and Power.)**

Dunning & Boschert Press Co., Inc., Syracuse, N. Y.  
Ripley Foundry & Machine Co., Ripley, O.  
**(Hydraulic Wheel.)**  
Inter-State Fdry. & Mch. Wks., Johnson City, Tenn.  
**(Metal Stamping.)**  
Bliss Co., E. W., Brooklyn, N. Y.

**PRINTERS (Book, Catalog, Job.)**

Smith & Son Co., Oscar T., Baltimore Md.  
Young & Selden Co., Baltimore, Md.

**PRODUCER (Gas Machines.)**

Gas-O-Flame Stove Works, Port Deposit, Md.  
Morgan Construction Co., Worcester, Mass.  
Wood & Co., R. D., Phila., Pa.

**PULLER-JACKS.**

Edelblute Co., T. H., Pittsburgh, Pa.

**PULLEYS (Friction Clutch.)**

Caldwell Co., Inc., W. E., Louisville, Ky.  
Schultz & Son, A. L., Chicago, Ill.  
Wood's Sons Co., T. B., Chambersburg, Pa.  
**(Motor and Machine.)**  
American Pulley Co., Philadelphia, Pa.  
**(Steel Split.)**  
American Pulley Co., Phila., Pa.  
**(Shafting and Hangers.)**  
American Pulley Co., Phila., Pa.  
Goldens' Fdry. & Mch. Co., Columbus, Ga.  
Wood's Sons Co., T. B., Chambersburg, Pa.

**PULVERIZED COAL EQUIPMENT.**

Combustion Engr. Corp., New York, N. Y.  
Fuller Lehigh Co., Fullerton, Pa.  
Whiting Corp., Harvey, Ill.

**PULVERIZERS (See Crushing and Pulverizing Machinery.)****PUMPING MACHINERY.**

Cameron, A. S., Steam Pump Works (Ingersoll-Rand Co.), New York City.

**Chain Belt Co., Milwaukee, Wis.**

Cook, Inc., A. D., Lawrenceburg, Ind.  
Fairbanks, Morse & Co., Chicago, Ill.  
Ingersoll-Rand Co. (A. S. Cameron Steam Pump Works), New York, N. Y.  
Keystone Pump & Drill Co., Beaver Falls, Pa.  
Luitwieler Pumping Engine Co., Rochester, N. Y.  
Myers & Bro. Co., The F. E., Ashland, Ohio.  
National Equipment Corp. (C. H. & E. Division), Milwaukee, Wis.  
Platt Iron Works, Dayton, Ohio.  
Union Steam Pump Co., Battle Creek, Mich.  
Viking Pump Co., Cedar Falls, Iowa.  
Virginia Mch. & Well Co., Richmond, Va.

**PUMPS (Air.)**

Manistee Iron Works Co., Manistee, Mich.  
**(Air Lift.)**  
Ingersoll-Rand Co., New York, N. Y.  
Sullivan Machinery Co., Chicago, Ill.

**(Boiler Feed.)**

Allis-Chalmers Mfg. Co., Milwaukee, Wis.  
Cameron, A. S., Steam Pump Works (Ingersoll-Rand Co.), New York City.  
DeLaval Steam Turbine Co., Trenton, N. J.  
Erie Pump & Engine Wks., Medina, N. Y.  
Ingersoll-Rand Co. (A. S. Cameron Steam Pump Works), New York, N. Y.  
Manistee Iron Works Co., Manistee, Mich.  
Myers & Bro. Co., The F. E., Ashland, O.

**(Centrifugal.)**

Allis-Chalmers Mfg. Co., Milwaukee, Wis.  
Cameron, A. S., Steam Pump Works (Ingersoll-Rand Co.), New York City.  
DeLaval Steam Turbine Co., Trenton, N. J.  
Emerson Pump & Valve Co., Alexandria, Va.  
Erie Pump & Engine Wks., Medina, N. Y.  
Fairbanks, Morse & Co., Chicago, Ill.  
Ingersoll-Rand Co. (A. S. Cameron Steam Pump Works), New York, N. Y.  
Jaeger Machine Co., Columbus, Ohio.  
Layne & Bowler, Inc., Memphis, Tenn.  
Manistee Iron Works Co., Manistee, Mich.  
Morris Machine Wks., Baldwinville, N. Y.  
Novo Engine Co., Lansing, Mich.  
Union Steam Pump Co., Battle Creek, Mich.

**(Contractors.)**

Emerson Pump & Valve Co., Alexandria, Va.  
Erie Pump & Engine Wks., Medina, N. Y.  
Novo Engine Co., Lansing, Mich.

**(Deep Well.)**

Cook, Inc., A. D., Lawrenceburg, Ind.  
Keystone Pump & Drill Co., Beaver Falls, Pa.  
Layne & Bowler, Inc., Memphis, Tenn.  
Luitwieler Pumping Engine Co., Rochester, N. Y.  
Novo Engine Co., Lansing, Mich.

**(Diaphragm.)**

Novo Engine Co., Lansing, Mich.

**(Hydraulic.)**

Dunning & Boschert Press Co., Inc., Syracuse, N. Y.

**(Power.)**

Platt Iron Works, Dayton, Ohio.  
Sterling Engine Co., Buffalo, N. Y.  
**(Pulverized Coal.)**  
Fuller Lehigh Co., Fullerton, Pa.

**(Rotary.)**

Viking Pump Co., Cedar Falls, Iowa.

**(Sand and Dredging.)**

Elliot Machine Corp., Baltimore, Md.  
Erie Pump & Engine Wks., Medina, N. Y.  
Georgia Iron Works, Augusta, Ga.

**(Steam.)**

Cameron, A. S., Steam Pump Works (Ingersoll-Rand Co.), New York City.  
Emerson Pump & Valve Co., Alexandria, Va.  
Fairbanks, Morse & Co., Chicago, Ill.  
Ingersoll-Rand Co. (A. S. Cameron Steam Pump Works), New York, N. Y.  
Platt Iron Works, Dayton, Ohio.  
Union Steam Pump Co., Battle Creek, Mich.

**(Vacuum.)**

Allis-Chalmers Mfg. Co., Milwaukee, Wis.  
Chicago Pneumatic Tool Co., New York.  
Ingersoll-Rand Co., New York, N. Y.  
Sullivan Machinery Co., Chicago, Ill.

**(Water Works.)**

Layne & Bowler, Inc., Memphis, Tenn.  
Manistee Iron Works Co., Manistee, Mich.

**PUNCHING and SHEARING MACHINERY.**

Bliss Co., E. W., Brooklyn, N. Y.  
Whitney Metal Tool Co., Rockford, Ill.

**RACK RAKES.**

Newport News Shipbuilding & Drydock Co., Newport News, Va.

**RADIATOR ENCLOSURES.**

Manhattan Perforated Metal Co., Inc., Long Island City, N. Y.

**RAILINGS (Iron Pipe.)**

Pipe Railing Constr. Co., Long Island City, N. Y.

**and Grilles, Iron and Brass.**

(Ranks and Offices.)  
Ludlow Saylor Wire Co., The St. Louis, Mo.

**RAILROAD Equipment and Supplies (New.)**

Robinson & Orr, Pittsburgh, Pa.  
Whiting Corp., Harvey, Ill.

**Equipment and Supplies (Used.)**

Birmingham Rail & Loco. Co., Birmingham.  
Equip. Sales & Rentals Co., Pittsburgh.  
Levi & Co., Henry, Philadelphia, Pa.  
Smith & Co., W. M., Birmingham, Ala.  
Southern Iron and Equip. Co., Atlanta.  
Zeinicker Supply Co., W. A., St. Louis.

**(Frogs and Switches.)**

Bethlehem Steel Co., Bethlehem, Pa.  
Frank, M. K., Pittsburgh, Pa.  
Koppel Ind. Car & Equip. Co., Koppel, Pa.  
Robinson & Orr, Pittsburgh, Pa.

**RAILROADS — (Offering Industrial, Agricultural and Commercial Opportunities.)**

Atlanta and West Point R. R., Atlanta.  
Central of Georgia Rwy., Savannah, Ga.  
Missouri - Kansas - Texas Lines, Dallas, Texas.  
Missouri Pacific Lines, St. Louis, Mo.  
Model Land Company, Flagler System, St. Augustine, Fla.  
Norfolk & Western Railway, Roanoke, Va.  
Tennessee Central Railway, Nashville, Tenn.

**RAILS (New and Used.)**

Birmingham Rail & Locomotive Co., Birmingham, Ala.  
Carnegie Steel Co., Pittsburgh, Pa.  
Frank, M. K., Pittsburgh, Pa.  
Levi & Co., Henry, Philadelphia, Pa.  
Perry, Buxton, Doane Co., Philadelphia.  
Robinson & Orr, Pittsburgh, Pa.  
Smith & Co., W. M., Birmingham, Ala.  
Southern Iron & Equip. Co., Atlanta, Ga.  
Sweet's Steel Co., Williamsport, Pa.  
Tennessee Coal, Iron & Railroad Co., Birmingham, Ala.  
Weller & Co., Birmingham, Ala.  
Zeinicker Supply Co., W. A., St. Louis.

**RAILWAYS (Industrial.)**

Easton Car & Construction Co., Easton, Pa.  
Koppel Ind. Car & Equip. Co., Koppel, Pa.

**(Marine.)**

Charleston Dry Dock and Machine Co., Charleston, E. C.

**RECEPTACLES (Self-foaming — Waste Paper.)**

Whitaker Paper Co., Baltimore, Md.

**REELS and SPOOLS (Pressed Metal.)**

American Pulley Co., Philadelphia, Pa.

**REFRACORIES.**

Harbison-Walker Refractories Co., Pittsburgh.  
Taylor Sons Co., Charles, Cincinnati.

**REFRIGERATING Machinery**

(See Ice and Refrigerating Machinery and Supplies.)

**REINFORCING for Concrete.**

American Steel and Wire Co., Balto., Md.  
Carnegie Steel Co., Pittsburgh, Pa.  
Connors Steel Co., Birmingham, Ala.  
Dietrich Brothers, Baltimore, Md.  
Gulf States Steel Co., Birmingham, Ala.  
Knoxville Iron Co., Knoxville, Tenn.  
Ryerson & Son, Inc., Jos. T., St. Louis and New York.  
Southern Engineering Co., Charlotte, N. C.

**RESURFACING MATERIALS**

(Floor, Roof and Roadways.)  
Stonhard Co., Phila., Pa.

**RETORTS (Special Process— Riveted or Welded.)**

Biggs Boiler Works, Akron, Ohio.

**RIVER and HARBOR IMPROVEMENTS, (Dredging, Docks, Wharves, etc.)**

Arundel Corp., The, Baltimore, Md.  
Atlantic Gulf and Pacific Co., New York.  
Kansas City Bridge Co., Kansas City.

**RIVETS.**

Russell, Burdell & Ward Bolt & Nut Co., Port Chester, N. Y.

**ROAD and Street Machinery.**

Acme Road Mchry. Co., Frankfort, N. Y.  
Austin-Western Road Mchry. Co., Chicago.

**Blaw-Knox Co., Pittsburgh, Pa.**

Buffalo-Springfield Roller Co., Springfield, O.  
Caterpillar Tractor Co., San Leandro, Cal.  
Erie Machine Shops, Erie, Pa.  
Huber Mfg. Co., The, Marion, Ohio.  
Universal Crane Co., Lorain, Ohio.

**and Street Material.**

Bituminous Earth Road Corp., Raleigh, N. C.  
Boxley & Co., W. W., Roanoke, Va.  
Sloss-Sheffield Steel and Iron Co., Birmingham, Ala.  
Woodstock Slag Corp., Birmingham, Ala.

**Graders and Scrapers.**

Acme Road Mchry. Co., Frankfort, N. Y.  
Austin-Western Road Mchry. Co., Chicago.  
Caterpillar Tractor Co., San Leandro, Cal.

**Oils and Preservatives.**

Gulf Refining Co., Pittsburgh, Pa.

**Reinforcement (Welded Fabric.)**

American Steel & Wire Co., Balto., Md.  
**Rollers (Steam and Gasoline.)**  
Acme Road Mchry. Co., Frankfort, N. Y.  
Austin-Western Road Mchry. Co., Chicago.  
Buffalo-Springfield Roller Co., Springfield, O.  
Erie Machine Shops, Erie, Pa.  
Huber Mfg. Co., The, Marion, Ohio.

**Rollers (For Concrete Work.)**

Macon Concrete Roller Co., Macon, Ga.

**Scarifiers.**

Austin-Western Road Mchry. Co., Chicago.  
Buffalo-Springfield Roller Co., Springfield, O.

**ROOFING (Ready Prepared, Felt, Tar, Asbestos, Asphalt.)**

Ambler Asbestos Shingle & Sheathing Co., Ambler, Pa.  
Eternit, Inc., St. Louis, Mo.

**and Siding (Composition.)**

Eternit, Inc., St. Louis, Mo.

**and Siding (Metal.)**

American Rolling Mill Co., Middletown, O.  
American Sheet and Tin Plate Co., Pittsburgh, Pa.  
Milcor Steel Co., Milwaukee, Wis.  
Moesch-Edwards Corr. Co., Cincinnati, O.  
Republic Steel Corp., Youngstown, Ohio.  
Robertson Co., H. H., Pittsburgh.  
Ryerson & Son, Jos. T., St. Louis and New York.  
Youngstown Sheet and Tube Co., Youngstown, O.

**Tile, Cement (Interlocking Flat, Channel Glass.)**

American Cement Tile Mfg. Co., Pittsburgh, Pa.

**Tiles.**

Amer. Cement Tile Mfg. Co., Pittsburgh

**ROPE (Manila, Sisal, Hemp, etc.)**

Broderick & Bascom Rope Co., St. Louis.  
**Drives.**  
Wood's Sons Co., T. B., Chambersburg, Pa.

**RULES (Steel.)**

Lufkin Rule Co., Saginaw, Mich.

**SAND.**

Arundel Corp., Baltimore, Md.  
Friend & Co., Inc., Petersburg, Va.

**SANITARY Drinking Fountains.**

Rundle-Spence Mfg. Co., Milwaukee, Wis.

**SASH (Industrial.)**

Detroit Steel Products Co., Detroit, Mich.

**(Operating Devices.)**

Detroit Steel Products Co., Detroit, Mich.

**(Steel.)**

Detroit Steel Products Co., Detroit, Mich.

**(Steel, Basement, Ventilating.)**

Detroit Steel Products Co., Detroit, Mich.

**SAWMILL Machinery.**

Schofield's Sons Co., J. S., Macon, Ga.

**SAW RIGS.**

National Equipment Corp. (C. H. & E. Division), Milwaukee, Wis.

**SAWS (Cold Metal.)**

Erie Gear and Machine Co., Phila., Pa.

**(Portable, Electric, Hand.)**

Wappat, Incorporated, Pittsburgh, Pa.

**SCAFFOLDING (Wooden.)**

Patent Scaffolding Co., Chicago, Ill.

**SCALES (Industrial, Platform.)**

American Kren Scale Co., New York City.



## —(Textile.)

American Kron Seals Co., New York City.

**SCHOOLS (Correspondence.)**

International Correspondence Schools, Scranton, Pa.

**SCOOPS (Hand.)**

American Mfg. Co., Chattanooga, Tenn.

## —(Wheeled.)

Riddell Co., W. A., Bucyrus, Ohio.

**SCRAPERS (Drag and Wheel.)**

Austin-Western Road Machy. Co., Chicago. Sauerman Bros., Chicago, Ill.

**SCRAP IRON AND STEEL.**

Huntz Sons, M. J., Philadelphia, Pa. Perry, Buxton, Doane Co., Philadelphia. Smith & Co., W. M., Birmingham, Ala.

**SCREENING (For Concrete and Road Construction.)**

American Limestone Co., Knoxville, Tenn.

**SCREENS (Sand, Gravel, Stone, Coal, Ore, etc.)**

Chicago Perforating Co., Chicago, Ill. Erdle Perforating Co., Rochester, N. Y. Wendrick Mfg. Co., Carbondale, Pa. Ludlow Saylor Wire Co., The St. Louis, Mo. McLanahan-Stone Machine Co., Hollidaysburg, Pa. Mundt & Sons, Charles, Jersey City, N. J. Stephens-Adams Mfg. Co., Birmingham, Ala. Universal Crusher Co., Cedar Rapids, Iowa.

**SCREW-Machine Products.**

Progressive Mfg. Co., Torrington, Conn.

**SCREWS (Machine.)**

Progressive Mfg. Co., Torrington, Conn.

**SEAWALLS.**

Shore-Line Builders, Inc., Jacksonville, Fla.

**SEPARATORS (Dust.)**

Raymond Bros., Impact Pulv. Co., Chicago.

**SEWAGE Disposal Apparatus.**

Pacific Flush-Tank Co., New York, N. Y.

**SEWER Joint Compounds.**

Pacific Flush-Tank Co., New York, N. Y.

## —(Pipe (Vitrified).)

Bannon Pipe Co., Louisville, Ky. Cambria Clay Products Co., Blackfork, O. Dee Co., Wm. E., Oak Hill, Ohio. Lee Clay Products Co., Clearfield, Ky. Owensboro Sewer Pipe Co., Owensboro, Ky.

**SEWER PIPE MACHINERY (Concrete.)**

Quinn Wire & Iron Works, Boone, Iowa.

**SHADES (Offset.)**

Hough Shade Corp., Chicago, Ill.

**SHAFTING.**

Ryerson & Sons, Inc., Jos. T., St. Louis and New York.

## —(Cold Rolled.)

Bliss & Laughlin, Inc., Harvey, Ill.

## —(Flexible.)

Strand & Co., N. A., Chicago, Ill.

## —(Material (Tubular).)

National Tube Co., Pittsburgh, Pa.

**SHARPENING Stones.**

Carborundum Co., Niagara Falls, N. Y.

**SHEET Metal Work.**

National Blow Pipe & Mfg. Co., Ltd., New Orleans, La. Skinner Bros. Mfg. Co., St. Louis, Mo.

## —(Metal Working Machinery.)

Bliss Co., E. W., Brooklyn, N. Y. Whitney Metal Tool Co., Rockford, Ill. Yoder Co., The, Cleveland, Ohio.

## —(Steel and Iron.)

American Rolling Mill Co., Middletown, O. American Sheet and Tin Plate Co., Pittsburgh, Pa. Bethlehem Steel Co., Bethlehem, Pa. Granite City Steel Co., Granite City, Ill. Gulf States Steel Co., Birmingham, Ala. Republic Steel Corp., Youngstown, Ohio. Ryerson & Son, Inc., Jos. T., St. Louis and New York. Tennessee Coal, Iron & Railroad Co., Birmingham, Ala. Youngstown Sheet & Tube Co., Youngstown, O.

**SHEETS (Asbestos.)**

Ambler Asbestos Shingle & Sheathing Co., Ambler, Pa. Eternit, Inc., St. Louis, Mo.

## —(Steel—Asbestos Covered.)

Robertson Co., H. H., Pittsburgh, Pa.

**SHELVING (Unit.)**

Lupton's Sons Co., David, Phila., Pa.

**SHINGLES (Asbestos.)**

Ambler Asbestos Shingle & Sheathing Co., Ambler, Pa. Eternit, Inc., St. Louis, Mo.

## —(Stain.)

Cabot, Inc., Samuel, Boston, Mass.

**SHIPPING CARTONS (Corrugated Paper.)**

Hinde & Dauch Paper Co., Sandusky, O.

**SHOVELS (Hand.)**

American Mfg. Co., Chattanooga, Tenn.

## —(Steam, Gas and Electric Power.)

Bucyrus-Erie Co., Erie, Penna. Harnischfeger Corp., Milwaukee, Wis. Industrial Brownellist Corp., Cleveland, O. National Equipment Corp. (Kochring, Insley), Milwaukee, Wis. Northwest Engineering Co., Chicago, Ill. Ohio Power Shovel Co., Lima, Ohio. These Shovel Co., The, Lorain, Ohio. Universal Power Shovel Co., Milwaukee, Wis.

**SHUTTERS (Steel.)**

Merchant & Evans Co., Philadelphia, Pa.

## —(Steel and Wood Bifolding.)

Kinnear Mfg. Co., The, Columbus, Ohio.

**SILICATE OF SODA.**

Grasselli Chemical Co., Inc., Birmingham, Ala.

**SITES (Manufacturing.)**

Alabama Power Co., Birmingham, Ala. Arkansas Natural Gas Corp., Shreveport, La. Atlanta and West Point R. R., Atlanta. Brown & Co., Chattanooga, Tenn. Central of Georgia Rwy., Savannah, Ga. Central Power & Light Co., San Antonio. Galveston City Co., Galveston, Texas. Georgia Power Co., Atlanta, Ga. Jacksonville, City of Jacksonville, Florida. Missouri-Kansas-Texas Lines, Dallas, Texas. Missouri Pacific Line, St. Louis, Mo. Model Land Company, (Flagler System), St. Augustine, Fla. Norfolk & Western Railway, Roanoke, Va. Tennessee Central Railway, Nashville, Tenn. Texas Power & Light Co., Dallas, Texas.

**SKYLIGHTS.**

Milnor Steel Co., Milwaukee, Wis. Robertson Co., H. H., Pittsburgh, Pa.

**SLABS (Concrete Floor.)**

American Cement Tile Mfg. Co., Pittsburgh, Pa.

## —(Concrete Roof.)

American Cement Tile Mfg. Co., Pittsburgh, Pa.

**SLAG, For Concrete.**

Gloss-Sheffield Steel and Iron Co., Birmingham, Ala. Woodstock Slag Corp., Birmingham, Ala.

## —(Furnace.)

Gloss-Sheffield Steel and Iron Co., Birmingham, Ala. Woodstock Slag Corp., Birmingham, Ala.

**SLINGS (Chain.)**

Woodhouse Chain Works, Trenton, N. J.

## —(Wire Rope.)

Reebing's Sons Co., John A., Trenton, N. J.

**SLUICE GATES AND APPLIANCES.**

Smith Co., S. Morgan, York, Pa.

**SNATCH BLOCKS (For Wire and Manila Rope.)**

Patterson Co., W. W., Pittsburgh.

**STADES.**

American Mfg. Co., Chattanooga, Tenn.

**SPEED REDUCERS.**

Harle Gear & Mach. Co., Phila., Pa. Morse Chain Co., Ithaca, N. Y. Stephens-Adams Mfg. Co., Birmingham, Ala.

**SPIKES (Railroad, Ship.)**

Bethlehem Steel Co., Bethlehem, Pa. Republic Steel Corp., Youngstown, Ohio. Sweet's Steel Co., Williamsport, Pa.

**SPINNINGS (Metal for Aircraft.)**

Benson Brass & Chandler Works, Kansas City, Mo.

**SPRINGS (Machinery, Railway, Spiral Steel.)**

American Steel & Wire Co., Balto., Md. Raymond Mfg. Co., Corry, Pa.

## —(Wire—All Kinds.)

American Steel & Wire Co., Balto., Md.

**SPRINKLERS (Automatic Fire.)**

Grinnell Co., Inc., Providence, R. I.

**SPROCKETS.**

Diamond Chain & Mfg. Co., Indianapolis. Morse Chain Co., Ithaca, N. Y.

**STACKS (Iron and Steel.)**

Biggs Boiler Works Co., Akron, Ohio. Chattanooga Boiler & Tank Co., Chattanooga, Tenn.

Chicago Bridge and Iron Works, Atlanta. Downingtown Iron Wks., Downingtown, Pa. Hammond Iron Works, Warren, Pa. Hedges Walsh Weldner Co., Chattanooga, Tenn.

Ingalls Iron Works Co., Birmingham, Ala. Lombard Iron Works & Supply Co., Augusta, Ga. Pittsburgh-Des Moines Steel Co., Pittsburgh, Pa.

Schofield's Sons Co., J. S., Mason, Ga. U. S. Pipe & Foundry Co., Burlington, N. J. Virginia Bridge & Iron Co., Roanoke, Va.

**STAINS (Shingle, Woodwork.)**

Cabot, Inc., Samuel, Boston, Mass.

**STAIR Steps (Safety.)**

Irving Iron Works Co., Long Is. City, N.Y.

## —(Treads.)

Bates Steel Corp., Walter, Gray, Ind. Central Iron & Steel Co., Harrisburg, Pa.

**STAMPING (Sheet Metal.)**

American Pulley Co., Philadelphia, Pa.

## —(Steel (All Kinds).)

Commercial Shearing & Stamping Co., Youngstown, Ohio.

**STANDPIPES.**

Chattanooga Boiler & Tank Co., Chattanooga, Tenn.

Chicago Bridge & Iron Works, Atlanta, Ga. Hammond Iron Works, Warren, Pa. Pittsburgh-Des Moines Steel Co., Pittsburgh, Pa.

Republic Steel Corp., Youngstown, Ohio. Richmond Struc. Steel Co., Richmond, Va. Roanoke Iron & Bridge Works, Inc., Roanoke, Va.

Ryerson & Son, Inc., Jos. T., St. Louis and New York. Sneed Architectural Iron Works, Louisville, Ky.

Southern Engineering Co., Charlotte, N. C. Tennessee Coal, Iron & Railroad Co., Birmingham, Ala. Virginia Bridge & Iron Co., Roanoke, Va.

Wilmington, Ohio. Chattanooga Boiler & Tank Co., Chattanooga, Tenn. Converse Bridge & Steel Co., Chattanooga, Tenn.

Dietrich Brothers, Baltimore, Md. Eicheley, Jr. Co., John, Pittsburgh. Erie Steel Constr. Co., Erie, Pa.

Ingalls Iron Works Co., Birmingham, Ala. McClintic-Marshall Co., Pittsburgh, Pa. Nashville Bridge Co., Nashville, Tenn. Phoenix Iron Co., The, Phila., Pa.

Pittsburgh-Des Moines Steel Co., Pittsburgh, Pa. Republic Steel Corp., Youngstown, Ohio. Richmond Struc. Steel Co., Richmond, Va. Roanoke Iron & Bridge Works, Inc., Roanoke, Va.

Ryerson & Son, Inc., Jos. T., St. Louis and New York. Sneed Architectural Iron Works, Louisville, Ky.

Southern Engineering Co., Charlotte, N. C. Tennessee Coal, Iron & Railroad Co., Birmingham, Ala. Virginia Bridge & Iron Co., Roanoke, Va.

Wilmington, Ohio. Chattanooga Boiler & Tank Co., Chattanooga, Tenn. Converse Bridge & Steel Co., Chattanooga, Tenn.

Dietrich Brothers, Baltimore, Md. Eicheley, Jr. Co., John, Pittsburgh. Erie Steel Constr. Co., Erie, Pa.

Ingalls Iron Works Co., Birmingham, Ala. McClintic-Marshall Co., Pittsburgh, Pa. Nashville Bridge Co., Nashville, Tenn. Phoenix Iron Co., The, Phila., Pa.

Pittsburgh-Des Moines Steel Co., Pittsburgh, Pa. Republic Steel Corp., Youngstown, Ohio. Richmond Struc. Steel Co., Richmond, Va. Roanoke Iron & Bridge Works, Inc., Roanoke, Va.

Ryerson & Son, Inc., Jos. T., St. Louis and New York. Sneed Architectural Iron Works, Louisville, Ky.

Southern Engineering Co., Charlotte, N. C. Tennessee Coal, Iron & Railroad Co., Birmingham, Ala. Virginia Bridge & Iron Co., Roanoke, Va.

Wilmington, Ohio. Chattanooga Boiler & Tank Co., Chattanooga, Tenn. Converse Bridge & Steel Co., Chattanooga, Tenn.

Dietrich Brothers, Baltimore, Md. Eicheley, Jr. Co., John, Pittsburgh. Erie Steel Constr. Co., Erie, Pa.

Ingalls Iron Works Co., Birmingham, Ala. McClintic-Marshall Co., Pittsburgh, Pa. Nashville Bridge Co., Nashville, Tenn. Phoenix Iron Co., The, Phila., Pa.

Pittsburgh-Des Moines Steel Co., Pittsburgh, Pa. Republic Steel Corp., Youngstown, Ohio. Richmond Struc. Steel Co., Richmond, Va. Roanoke Iron & Bridge Works, Inc., Roanoke, Va.

Ryerson & Son, Inc., Jos. T., St. Louis and New York. Sneed Architectural Iron Works, Louisville, Ky.

Southern Engineering Co., Charlotte, N. C. Tennessee Coal, Iron & Railroad Co., Birmingham, Ala. Virginia Bridge & Iron Co., Roanoke, Va.

Wilmington, Ohio. Chattanooga Boiler & Tank Co., Chattanooga, Tenn. Converse Bridge & Steel Co., Chattanooga, Tenn.

Dietrich Brothers, Baltimore, Md. Eicheley, Jr. Co., John, Pittsburgh. Erie Steel Constr. Co., Erie, Pa.

Ingalls Iron Works Co., Birmingham, Ala. McClintic-Marshall Co., Pittsburgh, Pa. Nashville Bridge Co., Nashville, Tenn. Phoenix Iron Co., The, Phila., Pa.

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**BIRMINGHAM Boiler & Engr. Co., Bir-**

mingham, Ala. Bristol Steel & Iron Works, Inc., Bristol, Va.

Carolina Steel & Iron Co., Greensboro, N. C. Central Iron & Steel Co., Harrisburg, Pa.

Chattanooga Boiler & Tank Co., Chattanooga, Tenn. Chicago Bridge & Iron Works, Atlanta, Ga.

Combustion Engr. Corp., New York City. Hammond Iron Works, Warren, Pa. Hedges Walsh Weldner Co., Chattanooga, Tenn.

Ingalls Iron Works Co., Birmingham, Ala. Mecklenburg Iron Works, Charlotte, N. C. Phoenix Iron Co., The, Phila., Pa.

Pittsburgh-Des Moines Steel Co., Pittsburgh, Pa.

**STOKERS (Mechanical.)**

Babcock & Wilcox Co., The, New York. Combustion Engr. Corp., New York City. Whiting Corp., Harvey, Ill.

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Electric Storage Battery Co., Philadelphia.

## —(Bins (Steel).)

Blaw-Knox Co., Pittsburgh, Pa.

**STRIPS (Steel.)**

American Steel & Wire Co., Baltimore.

**STRUCTURAL STEEL (Hot Galvanized.)**

Bessemer Galvanizing Works, Birmingham.

## —(and Iron.)

American Bridge Co., New York, N. Y. Belmont Iron Works, Philadelphia, Pa.

Bristol Steel & Iron Works, Inc., Bristol, Va. Carnegie Steel Co., Pittsburgh, Pa.

Carolina Steel & Iron Co., Greensboro, N. C. Champion Bridge Co., Wilmington, Ohio.

Chattanooga Boiler & Tank Co., Chattanooga, Tenn. Converse Bridge & Steel Co., Chattanooga, Tenn.

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McClintic-Marshall Co., Pittsburgh, Pa. Nashville Bridge Co., Nashville, Tenn.

Phoenix Iron Co., The, Phila., Pa. Pittsburgh-Des Moines Steel Co., Pittsburgh, Pa.

Republic Steel Corp., Youngstown, Ohio. Richmond Struc. Steel Co., Richmond, Va.

Roanoke Iron & Bridge Works, Inc., Roanoke, Va. Ryerson & Son, Inc., Jos. T., St. Louis and New York.

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Tennessee Coal, Iron & Railroad Co., Birmingham, Ala. Virginia Bridge & Iron Co., Roanoke, Va.

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Virginia Bridge & Iron Co., Roanoke, Va. Wilmington, Ohio. Chattanooga Boiler & Tank

**TANKS (Air Compressor.)**

Air-Tight Steel Tank Co., Pittsburgh, Pa.

Seafie &amp; Sons, Wm. B., Oakmont, Pa.

Titusville Iron Works Co., Titusville, Pa.

—(Elevated Steel.)

Caldwell Co., Inc., W. E., Louisville, Ky.

Chattanooga Boiler &amp; Tank Co., Chattanooga, Tenn.

Chicago Bridge &amp; Iron Works, Atlanta, Ga.

Cole Mfg. Co., R. D., Newman, Ga.

Pittsburgh-Des Moines Steel Co., Pittsburgh, Pa.

Scheffold's Sons Co., J. S., Macon, Ga.

Virginia Bridge &amp; Iron Co., Roanoke, Va.

—(Elevated Wood.)

Caldwell Co., Inc., W. E., Louisville, Ky.

Davis &amp; Son, G. M., Palatka, Fla.

Woolford Wood Tank Mfg. Co., G., Paschall P. O., Philadelphia.

—(Iron and Steel.)

Air-Tight Steel Tank Co., Pittsburgh, Pa.

American Bridge Co., New York, N. Y.

Biggs Boiler Works Co., Akron, Ohio.

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Chicago Bridge &amp; Iron Works, Atlanta, Ga.

Cole Mfg. Co., R. D., Newman, Ga.

Downingtown Iron Works, Downingtown, Pa.

Hammond Iron Works, Warren, Pa.

Lombard Iron Works &amp; Supply Co., Augusta, Ga.

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Mecklenburg Iron Works, Charlotte, N. C.

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Scheffold's Sons Co., J. S., Macon, Ga.

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Westinghouse Traction Brake Co., Willmerding, Pa.

—(Seamless Steel.)

Janney, Jr., Jos. A., Phila., Pa.

National Tube Co., Pittsburgh, Pa.

—(Storage, Oil, etc.)

Biggs Boiler Works, Akron, Ohio.

Birmingham Boiler &amp; Engr. Co., Birmingham, Ala.

Chattanooga Boiler &amp; Tank Co., Chattanooga, Tenn.

Chicago Bridge &amp; Iron Works, Atlanta, Ga.

Downingtown Iron Works, Downingtown, Pa.

Hammond Iron Works, Warren, Pa.

Ingalls Iron Works Co., Birmingham, Ala.

Mecklenburg Iron Works, Charlotte, N. C.

Pittsburgh-Des Moines Steel Co., Pittsburgh, Pa.

Titusville Iron Works Co., Titusville, Pa.

—(Wood.)

Caldwell Co., Inc., W. E., Louisville, Ky.

Davis &amp; Son, G. M., Palatka, Fla.

Virginia Mch. &amp; Well Co., Richmond, Va.

Woolford Wood Tank Mfg. Co., G., Paschall P. O., Philadelphia.

—(Wood Pickling.)

Woolford Wood Tank Mfg. Co., G., Paschall P. O., Philadelphia.

—(Tape Insulating.)

Okonite Co., New York, N. Y.

—(Measuring.)

Lufkin Rule Co., Saginaw, Mich.

—(Tax Specialists.)

Ernst &amp; Ernst, New York, N. Y.

Harrison, Wm. Henry, Washington, D. C.

Le Baron, Ernest T., Jacksonville, Fla.

—(Telephone Service.)

American Telephone &amp; Telegraph Co.

—(Terra Cotta Ornamental.)

Atlanta Terra Cotta Co., Atlanta, Ga.

—(Textile Chemicals.)

Grasselli Chemical Co., Inc., Birmingham, Ala.

—(Tile Cement Roofing.)

American Cement Tile Mfg. Co., Pittsburgh, Pa.

—(Cork Composition.)

Congoleum-Nairn Inc., Kearny, N. J.

—(Cork Flooring.)

Congoleum-Nairn Inc., Kearny, N. J.

—(Floor.)

Hood Co., B. Miffin, Daisy, Tenn.

—(Hollow Building.)

Cambria Clay Products Co., Blackfork, Ohio.

—(Roof.)

Hood Co., B. Miffin, Daisy, Tenn.

—(Sewer.)

Lee Clay Products Co., Clearfield, Ky.

—(Timber Fittings.)

Duplex Hanger Co., Cleveland, Ohio.

—(Creosoted.)

Amer. Creosote Wks., Inc., New Orleans.

Amer. Creosoting Co., Inc., Louisville, Ky.

Carolina Wood Preserving Co., Charleston, S. C.

—(Time Recorders.)

Kaiser Klock Co., L. E., Baltimore, Md.

**TIN AND TERNE PLATES.**

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Bethlehem Steel Co., Bethlehem, Pa.

Granite City Steel Co., Granite City, Ill.

Youngstown Sheet &amp; Tube Co., Youngstown, Ohio.

—(Tobacco Machinery.)

Ripley Foundry &amp; Machine Co., Ripley, O.

—(Toilet Tissue.)

Victoria Paper Mills Co., Fulton, N. Y.

—(Tools (Measuring).)

Lufkin Rule Co., Saginaw, Mich.

—(Woodworking—Portable.)

Electric, Hand.)

Wappat, Incorporated, Pittsburgh, Pa.

—(Torches (Blow).)

Wall Mfg. Supply Co., P., Pittsburgh, Pa.

—(Towers (Electric Transmission).)

American Bridge Co., New York, N. Y.

Bates Steel Corp., Walter, Gray, Ind.

Bessemer Galvanizing Works, Birmingham, Ala.

Nashville Bridge Co., Nashville, Tenn.

—(Radio.)

Bessemer Galv. Wks., Birmingham, Ala.

—(Steel and Wood.)

Chattanooga Boiler &amp; Tank Co., Chattanooga, Tenn.

Cole Mfg. Co., R. D., Newman, Ga.

—(Track (Portable or Permanent).)

Sweet's Steel Co., Williamsport, Pa.

—(Tractors (Industrial).)

Atlas Car &amp; Mfg. Co., The, Cleveland, O.

Caterpillar Tractor Co., San Leandro, Cal.

Clark Tractor Co., Battle Creek, Mich.

Cleveland Tractor Co., Cleveland, Ohio.

International Harvester Co., of America, Inc., Chicago, Ill.

—(Road.)

Caterpillar Tractor Co., San Leandro, Cal.

Cleveland Tractor Co., Cleveland, Ohio.

—(Attachments (Side Boom).)

W-K-M Co., Inc., Houston, Texas.

—(Trailers (Four Wheel).)

Electric Wheel Co., Quincy, Ill.

—(Heavy Duty.)

Electric Wheel Co., Quincy, Ill.

—(Industrial.)

Easton Car &amp; Construction Co., Easton, Pa.

Electric Wheel Co., Quincy, Ill.

—(Pole.)

Electric Wheel Co., Quincy, Ill.

—(Tramways (Aerial Wire Rope).)

American Steel &amp; Wire Co., Balto., Md.

Broderick &amp; Bascom Rope Co., St. Louis, Mo.

Leschen &amp; Sons Rope Co., A., St. Louis, Mo.

—(Transformers.)

General Electric Co., Schenectady, N. Y.

Westinghouse Elec. &amp; Mfg. Co., E. Pittsburgh, Pa.

—(Used.)

Electric Service Co., Cincinnati, Ohio.

—(Transmission Towers (Galvanized).)

Bates Steel Corp., Walter, Gray, Ind.

Bessemer Galvanizing Works, Birmingham, Ala.

McClintic-Marshall Co., Pittsburgh, Pa.

—(Trench Machinery. See Excavators (Trench).)

—(Trestles (Wooden).)

Patent Scaffolding Co., Chicago, Ill.

—(Tri-Sodium Phosphate.)

Grasselli Chemical Co., Inc., Birmingham, Ala.

—(Trolley Wheels (Self Oiling).)

Moccasin Bushing Co., Chattanooga, Tenn.

—(Truck Cranes.)

Universal Crane Co., Lorain, O.

—(Trucks (Dry Kiln).)

Moore Dry Kiln Co., Jacksonville, Fla.

—(Industrial.)

Atlas Car &amp; Mfg. Co., The, Cleveland, O.

Lansing Co., Lansing, Mich.

Nutting Truck Co., Chicago, Ill.

—(Motor.)

International Harvester Co., of America, Inc., Chicago, Ill.

—(Platform, Freight, Mill, Factory, etc.)

American Pulley Co., Philadelphia, Pa.

Clark Tractor Co., Battle Creek, Mich.

Electric Wheel Co., Quincy, Ill.

Nutting Truck Co., Chicago, Ill.

—(Steel Shop.)

Angle Steel Stool Co., Plainwell, Mich.

—(Tubes (Boiler.) See Boiler Tubes.)

—(Tubing (Metal).)

Boiler Tube Co., of America, Pittsburgh, Pa.

—(Seamless Steel.)

National Tube Co., Pittsburgh, Pa.

Timken Rolling Bearing Co., Canton, O.

—(Turbines (Hydraulic).)

Cook, Inc., A. D., Lawrenceburg, Ind.

Davis Foundry &amp; Mach. Works, Rome, Ga.

Lefel &amp; Co., The James, Springfield, O.

Smith Co., S. Morgan, York, Pa.

—(Steam.)

Allis-Chalmers Mfg. Co., Milwaukee, Wis.

Delaval Steam Turbine Co., Trenton, N. J.

General Electric Co., Schenectady, N. Y.

Westinghouse Elec. &amp; Mfg. Co., E. Pittsburgh, Pa.

—(Turnbuckles.)

Russell, Burdall &amp; Ward Bolt &amp; Nut Co., Port Chester, N. Y.

—(Turntables.)

American Bridge Co., New York, N. Y.

Easton Car &amp; Construction Co., Easton, Pa.

Virginia Bridge &amp; Iron Co., Roanoke, Va.

—(Portable for Motor Trucks.)

Blaw-Knox Co., Pittsburgh, Pa.

—(Unions.)

Dart Mfg. Co., E. M., Providence, R. I.

—(Unit Heaters.)

Grinnell Co., Inc., Providence, R. I.

Skinner Bros., Mfg. Co., St. Louis, Mo.

—(Valves.)

Jenkins Bros., New York, N. Y.

Ludlow Valve Mfg. Co., The, Troy, N. Y.

Lunkenhelmer Co., The, Cincinnati, Ohio.

Merco Nordstrom Valve Co., San Francisco, Cal.

Mueller Co., Decatur, Ill.

Vogt Brothers Mfg. Co., Louisville, Ky.

Vogt Machine Co., Henry, Louisville, Ky.

Westinghouse Traction Brake Co., Willmerding, Pa.

—(Acid Proof.)

Lunkenhelmer Co., The, Cincinnati, O.

—(Gate.)

Ludlow Valve Mfg. Co., The, Troy, N. Y.

Lunkenhelmer Co., The, Cincinnati, Ohio.

Wood &amp; Co., R. D., Philadelphia, Pa.

—(Ventilating Systems.)

Skinner Bros. Mfg. Co., St. Louis, Mo.

Swartwout Co., Cleveland, Ohio.

—(Ventilators (Roof).)

Merchant &amp; Evans Co., Philadelphia, Pa.

Milcor Steel Co., Milwaukee, Wis.

Robertson Co., H. H., Pittsburgh, Pa.

—(Rotary.)

Swartwout Co., Cleveland, Ohio.

—(Wadding (Crepe, for package protection).)

Kimberly Clark Corp., Chicago, Ill.

—(Wall Hangers.)

Duplex Hanger Co., Cleveland, Ohio.

—(Wardrobes (Hygienic, School).)

Wilson Corp., The J. G., New York.

—(Watchman's Portable Clocks.)

Davis-Paradis Watchman's Clock Corp., New York, N. Y.

Kaiser Klock Co., L. E., Balto., Md.

—(Waterproofing (For Brick, Concrete, Granite).)

Asphalt Products Co., Syracuse, N. Y.

Foster Co., Benjamin, Philadelphia, Pa.

Sennepson, Sons, Inc., L., New York.

—(Water Purification.)

Roberts Filter Mfg. Co., Darby (Phila.), Pa.

Seafie &amp; Sons, Wm. B., Oakmont, Pa.

—(Softening Apparatus (Purifying).)

American Water Softener Co., Phila., Pa.

International Filter Co., Chicago, Ill.

—(Works Supplies and Appliances.)

Amer. Cast Iron Pipe Co., Birmingham

Cast Iron Pipe Research Assn., Chicago

Cook, Inc., A. D., Lawrenceburg, Ind.

Glamorgan Pipe &amp; Fdry. Co., Lynchburg, Va.

Leadite Co., The, Philadelphia, Pa.

Mueller Co., Decatur, Ill.

U. S. Pipe &amp; Foundry Co., Burlington, N. J.

Wood &amp; Co., R. D., Philadelphia, Pa.

—(Welding Apparatus (Electric Arc).)

General Electric Co., Schenectady, N. Y.

Westinghouse Elec. &amp; Mfg. Co., E. Pittsburgh, Pa.

—(Well Contractors (Oil, Artesian, etc.).)

Virginia Mach. &amp; Well Co., Richmond, Va.

—(Wheelbarrows.)

Sageen Derrick Co., Chicago, Ill.

Sterling Wheelbarrow Co., Milwaukee.

—(Wheels and Axles.)

Carnegie Steel Co., Pittsburgh, Pa.

—(Winches.)

Sageen Derrick Co., Chicago, Ill.

Schultz &amp; Son, A. L., Chicago, Ill.

—(Window Frames and Sash (Metal).)

Bayley Co., The William, Springfield, O.

Lupton's Sons Co., David, Phila., Pa.

—(Windows (Bronze Casement).)

Michaels Art Bronze Co., Covington, Ky.

—(Steel Basement, Casement.)

Bayley Co., The William, Springfield, O.

Detroit Steel Products Co., Detroit, Mich.

Lupton's Sons Co., David, Phila., Pa.

Milcor Steel Co., Milwaukee, Wis.

—(Steel Garage.)

Detroit Steel Products Co., Detroit, Mich.

Lupton's Sons Co., David, Phila., Pa.

—(Steel Pivoted, Screened.)

Bayley Co., William, Springfield, O.

—(Ventilating.)

Bayley Co., The William, Springfield, O.

Detroit Steel Products Co., Detroit, Mich.

Lupton's Sons Co., David, Phila., Pa.

—(Wire (All Kinds).)

American Steel &amp; Wire Co., Chicago.

Roebbling's Sons Co., John A., Trenton, N. J.

Ryerson &amp; Son, Inc., Jos. T., St. Louis and New York.

—(Barbed Wire, etc.)

American Steel &amp; Wire Co., Balto., Md.

Gulf States Steel Co., Birmingham, Ala.

Youngstown Sheet &amp; Tube Co., Youngstown, Ohio.

—(Fence.)

Anchor Post Fence Co., Baltimore, Md.

Cyclone Fence Co., Waukegan, Ill.

Page Fence Association, Chicago, Ill.

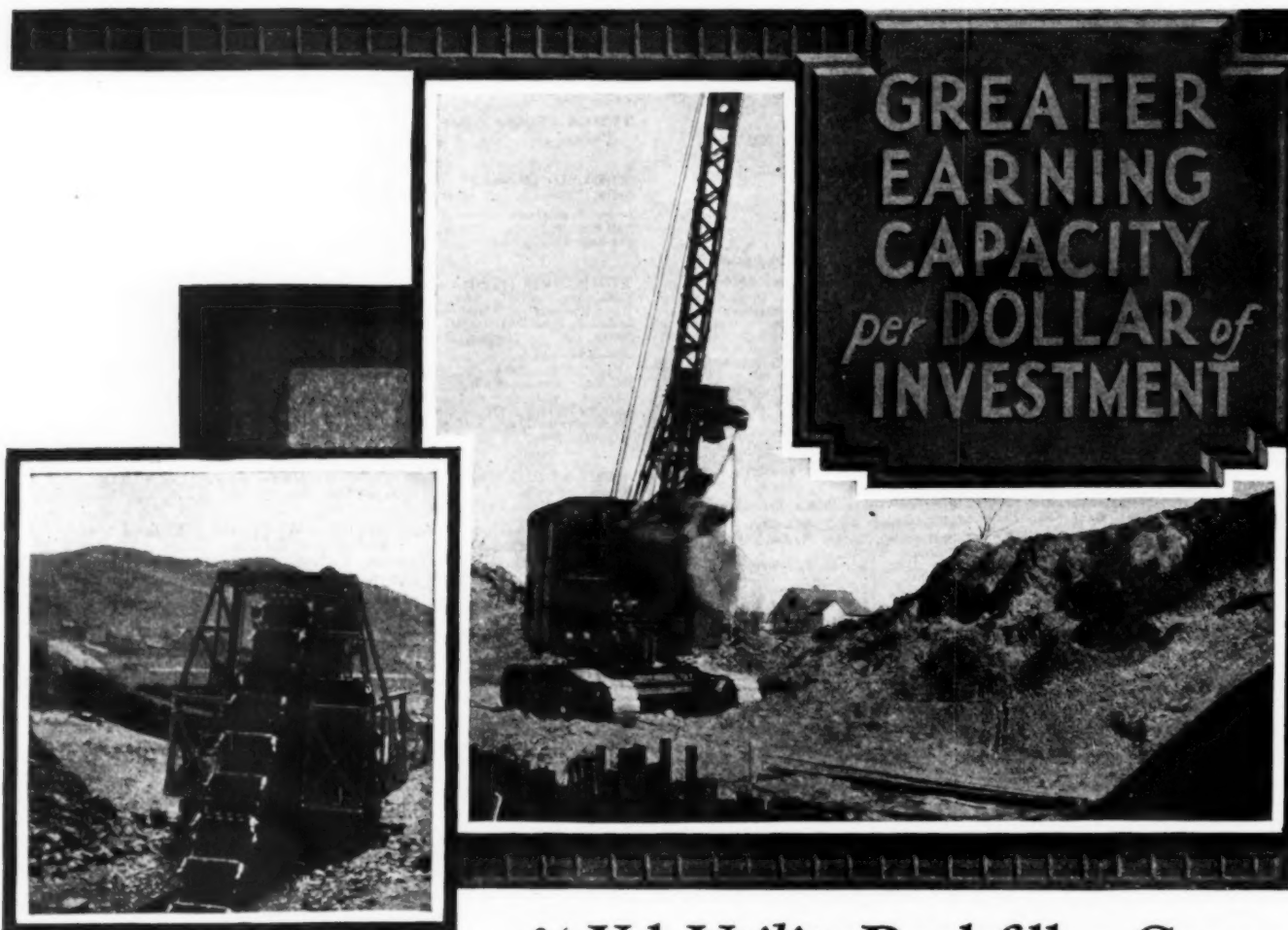
—(Flat and Round.)

American Steel &amp; Wire Co., Balto., Md.

—(Galvanized and Annealed.)

American Steel &amp; Wire Co., Balto., Md.





### Model 140 Service Trencher

This little chain-and-bucket type excavator embodies the dependable ruggedness characteristic of all Buckeyes and reinforces it with exceptional compactness and mobility. Expressly designed to meet the peculiar requirements of service line needs, it works equally well in tight quarters and on smaller main trenches.

Through heavy duty transmission controls, it places at the operator's command 3 road speeds, 3 bucket line speeds and 12 digging speeds. Six cutting widths range from 16 to 26 inches, with a maximum cutting depth of 9 feet. Easy steering is assured by over-size Twin Disc clutches. Other favorite mechanical features include steel tread Alligator crawlers; box girder boom with high speed hoist; no under cutting of Alligators; reversible bucket teeth; two-speed reversible conveyor, power shifted and highly mounted; 52 h.p. medium speed, industrial type motor; and steel construction throughout.

Model 140 is another Buckeye profit maker. Let us send you complete specifications and its price—both will interest you.

### $\frac{3}{8}$ -Yd. Utility Backfiller-Crane

Most Buckeye owners standardize on them exclusively, often employing them in great numbers. That is trustworthy proof of thousands of users' enthusiastic satisfaction with the earning power of their equipment.

The profits to be derived from investing in a  $\frac{3}{8}$ -yard Utility Buckeye are made possible by its remarkable diversified working ability. Quick convertibility—without drum lagging—to Clamshell, Crane, Dragline, Orange-peel or Backfiller, multiplies its service range.

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Write for complete specifications and performance records of this compact, speedy Buckeye Backfiller-Crane which pays its way every day on some construction job or other.

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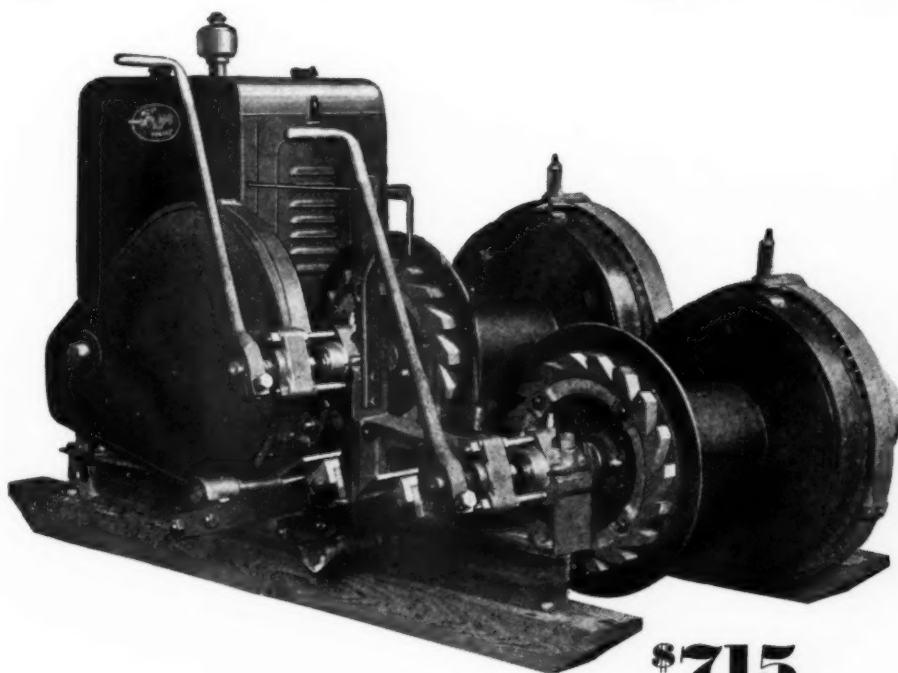
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**1**

The NH 165 has a double cone, six section, wood block, renewable friction—instead of the ordinary single cone friction cast integral with the drum gear.

**2**

Instead of releasing drum from friction by pulling it off with a friction lever, the NH 165 has a release spring on the drum shaft.

**3**

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**4**

The ratchet is bolted to the drum and can easily be replaced if broken. On others, the ratchet is cast integral with the drum.

**5**

Drum shaft bearings are of pillow block construction with stud bolts—instead of flat cap bearings with through machine bolts.

**6**

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**7**

The NH 165 has a real screw thrust—not a cam thrust.

**8**

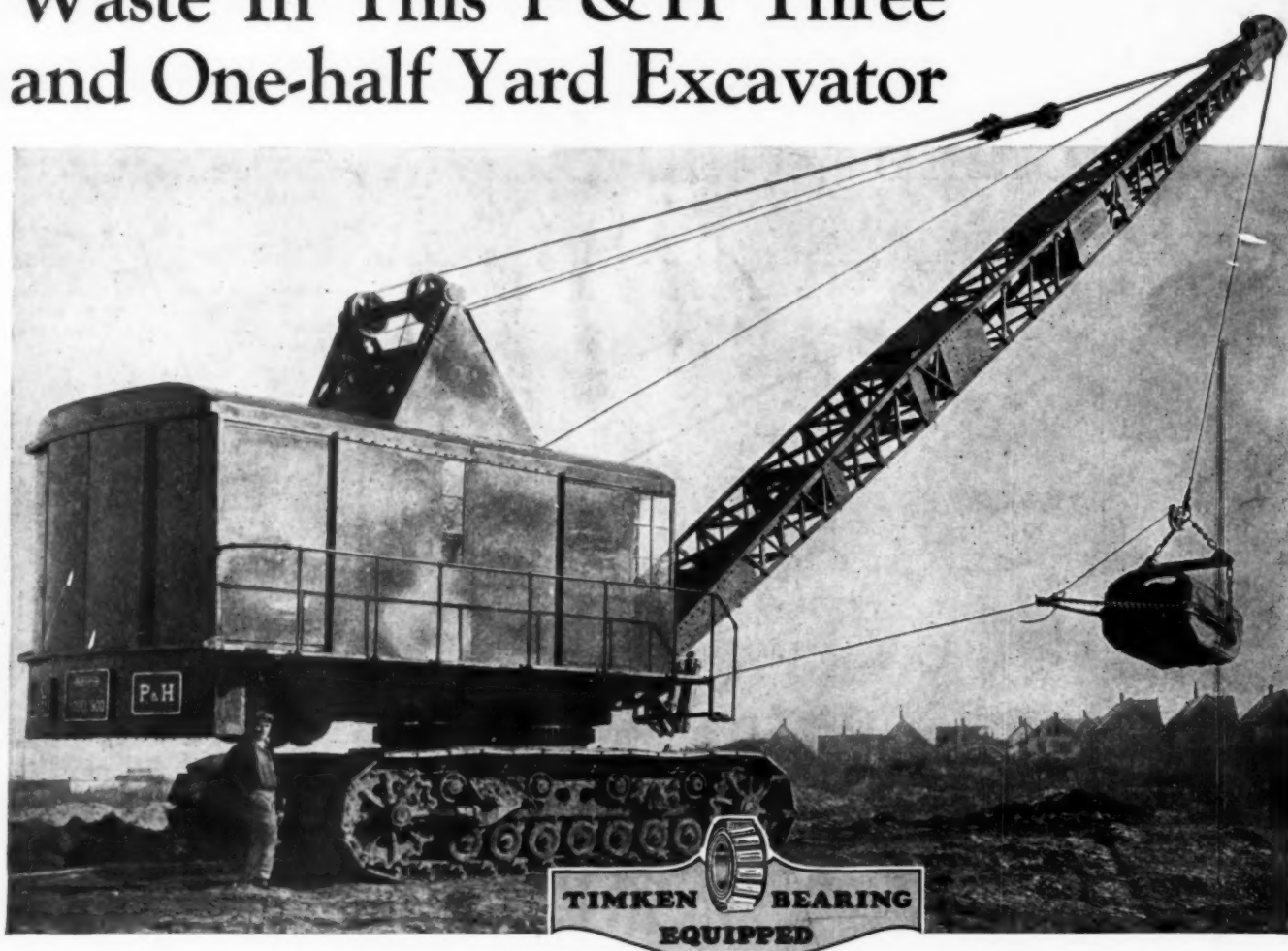
The side frames are separate from the base. And the base is of welded steel construction with tubular spreaders to maintain alignment and give additional strength. This is far superior to having the side frames and base all in one piece—and depending on wood skids for alignment.

**9**

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